

THE AUTOMOBILE



section of the country which is only awakening to its possibilities.

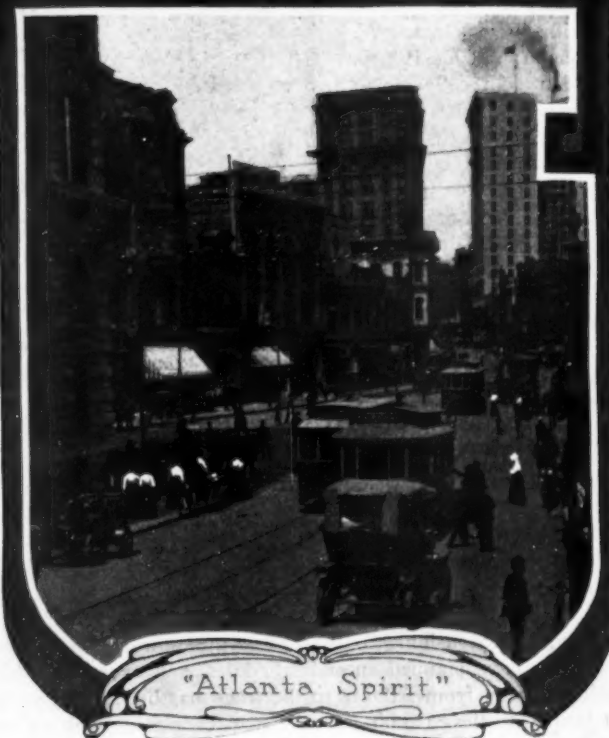
All Atlanta autodom and most of the South is patiently engaged in holding its breath in expectation of the very, extremely large, doings during "Auto Week," the greatest motor celebration ever held in the South and one which in many ways is unique in all motor car history.

The New York-to-Atlanta tourists to-day found awaiting them a reception that is a wonder, in a quiet, artistic way. Some weeks ago

ATLANTA, GA., Nov. 3—This "Gateway of the South" in another day will have become the "Autoists' Mecca," with a plenteous vanguard already in possession of the liveliest city of the New Southland, which values to the greatest extent the boon of the motor-driven vehicle that abridges distance and spells economy and cements the bonds that unite all sections of the country.

The big Auditorium-Armory is crowded with the 1910 products of the American automobile manufacturers, and the display tells a story that will be concluded as the salesmen write down the orders which must be the inevitable result of such a choice auto menu. Managers Miles and Reeves, two past masters in the show line, have done their work thoroughly and artistically, aided, of course, by a capable committee from Atlanta's progressive citizenship. The mammoth building lends itself to exhibition purposes, and this will be apparent to the thousands when on Saturday they are allowed to feast themselves upon the inviting up-to-date demonstration of the greatest and most beneficial industry of modern times.

Over the roads the visitors are coming Atlantawards, the New York-to-Atlanta good roads tourists being the earliest arrivals, after having created excitement and enthusiasm all the way from the Big Town of the country. When men get together they are certain to talk and discuss, and the result invariably is action of some kind. To realize how greatly the South is interested in good roads, one has only to broach the subject these days, and then he will discover that the building of real highways is something that finds pronounced favor with a



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the Atlanta Chamber of Commerce met and appointed committees to have the welcoming celebration in charge. Committees were named from the Capital City club, the Piedmont Driving club, and a committee to arrange escorts, and when these bodies got through their work it was certain that the tourists would be met in proper manner and entertained well upon their arrival.

Saturday afternoon the South's long-expected "Auto Week" actually begins—a "week" that stretches over some eight days, into which will be packed more automobile excitement than was ever before seen in this section of the country, and which, for variety of program, number of participants, and enthusiasm has seldom been equalled in America. 'Tis a full program.

Saturday night the show will open and run until November 13. Monday, from four Georgia cities, endurance runs will start, with Atlanta as the destination; and the following day a fifth one will get under way. Each run will consume two days. The Georgia Good Roads Automobile Association is engineering these: From Savannah, by the "Capital route"; from Fitzgerald and Albany, a run with two starting points, the contestants to meet at Macon and go to Atlanta in a body; from Augusta; and from Birmingham, in Alabama.

The Savannah run naturally promises to be the most important, for Savannah has a wholesale way of doing things that makes for success. Fifty starters from Savannah are regarded as probable. The list of entries heads off with Mayor George W. Tiedeman; F. C. Battey, president of the Savannah Automobile Club; Harvey Granger, and A. W. Solomon, names familiar in the arrangements for the Savannah race, and T. A. Bryson, who drove the scout car from Savannah to Atlanta and back.

The Albany-Fitzgerald run should be numerically strong, for Albany talks of fifty cars and Fitzgerald of thirty. Both cities have good entry lists already, headed in each case, as was Savannah's list, with the mayors of the cities. The first day that the entry blanks were out in Augusta a dozen entries were made for that run, so there will be a goodly number on hand before the entry lists close.

While the show preparations were going on the last finishing touches were put on the new automobile tracks, on which a meet will be held, November 9 to 13. The street car company has finished its extensions to the course, the railroads which reach the track have planned special schedules, and every inch of the main highway from Atlanta to the track has been oiled, in order to insure dustless running to the new course, as well as on it.

The day the first quartette of runs ends, November 9, will

open the races. These will run for five days, giving the Southern city the longest track meeting ever known in America.

Representatives of the Atlanta Automobile Association were at the Vanderbilt Cup race, and straightway signed Hugh Grant, with his Alco; Joe Matson, with his Chalmers-Detroit; and Harroun, with his Marmon, which guarantees three recent winners on the Atlanta track. Strang had previously been landed, with a Fiat; as had Robertson with his Fairmount Park car. Louis Bergdoll will bring his Benz racer, and Kilpatrick will be on hand with his Hotchkiss. It is reported that Christie will be in Atlanta. Chevrolet, with his Buick, and the National team are certain starters. Other entries are: Hearne, Fiat; Basle,

Renault; Cliquot, Pope-Toledo; Behr, Renault; the full Chalmers-Detroit teams; Grant, Marion; three Maxwells, two Mathesons, three Pullmans and one Moon.

Of course, there will be a good many local entries from Southern branches and agencies located in Atlanta and the amateurs are likely to have some good races. As there are to be five full days of racing, each day's events to begin at 11 o'clock and to last until well into the afternoon, it will take a pretty good bunch of entries to make a go of the affair, but it is probable that plenty of cars have been secured.

Reports from the local committee are that there is an unprecedented demand for hotel accommodations, and to meet this demand requests for rooms will be referred to the Committee on Information and Public Comfort. Secretary George H. Chapin has issued application blanks for hotel accommodations and all such matters should be referred to him for attention. A circular issued by the committee says:

"The Committee on Information and Public Comfort undertakes to find comfortable rooms and board for prospective

visitors to Atlanta during automobile week. It will, if possible, secure quarters in some of the hotels. If this is impossible, it will assign rooms in some of the best boarding houses or private homes, notifying the visitor immediately of the place selected, rates, and all other information. This will give the visitor opportunity to write to the hotel, boarding house, or householder and make what further arrangements may be necessary. The committee urges that all arrangements shall be made at once, as there will be many thousand visitors in Atlanta during automobile week and those who apply first will get the best accommodations."

Secretary Chapin also states that for parties touring to Atlanta it may be possible to secure a stopping place where automobiles may be stored.



N. A. A. M. Atlanta Show Committee

HOW ATLANTA GOT A NATIONAL SHOW

By CLARK HOWELL, EDITOR OF THE ATLANTA CONSTITUTION.

YOU ask me to tell you "How Atlanta come to get the first national automobile show of 1910 models?"

I will give you the facts in the case, and your readers may judge for themselves how it was done.

Somehow or other Atlanta has always been impressed with the fact that it was the center, or at least of this part, of the universe, and the "Atlanta Spirit" is proverbial.

It was created out of the ashes of the burned town left by General Sherman in 1864—then a place of about eight or nine thousand inhabitants. It had been the storm center of the Civil War, and was the last stronghold and gateway of supplies of the Confederacy. When Sherman took it and established it as his Southern base, the war was practically over. It did not take Appomattox to write the finale. The Confederacy fell with Atlanta.

Thousands of exhausted and impoverished Confederate veterans, moving backward and forward through the South to their depleted homes, passed through the town, which had been burned less than a year before, and observed on every side remarkable evidences of thrift and enterprise in the rebuilding of the place which had been only a few months before completely annihilated. It was with difficulty that enough workmen could be engaged in sufficient quantities to meet the demand. Supplies could not be obtained fast enough.

Many families in the county surrounding who had lived in opulence and ease as slaveholders before the war, and who, with the exception of their

land, were left penniless at the end of the war, soon found new avenues of wealth in supplying brick and lumber and building material generally at unprecedented prices. Hundreds of the returning Confederate veterans from other States took advantage of the opportunity to get work and enter business anew.

Many of those who thus took up citizenship in the rebuilding town afterward became the most prominent and successful of the business men of the city, some of them laying the foundation of large fortunes afterward accumulated.

Other Southern cities did not recuperate from the devastating results of the war as rapidly as did Atlanta, and it was the remarkable energy exhibited by the city at that time that gave birth to the "Atlanta Spirit."

From that day to this Atlanta has been growing by leaps and bounds, stopping at nothing, aspiring to anything and accomplishing results which would often have staggered a city of ten times the population.

And that is why Atlanta went out after the first National automobile show of 1910 models.

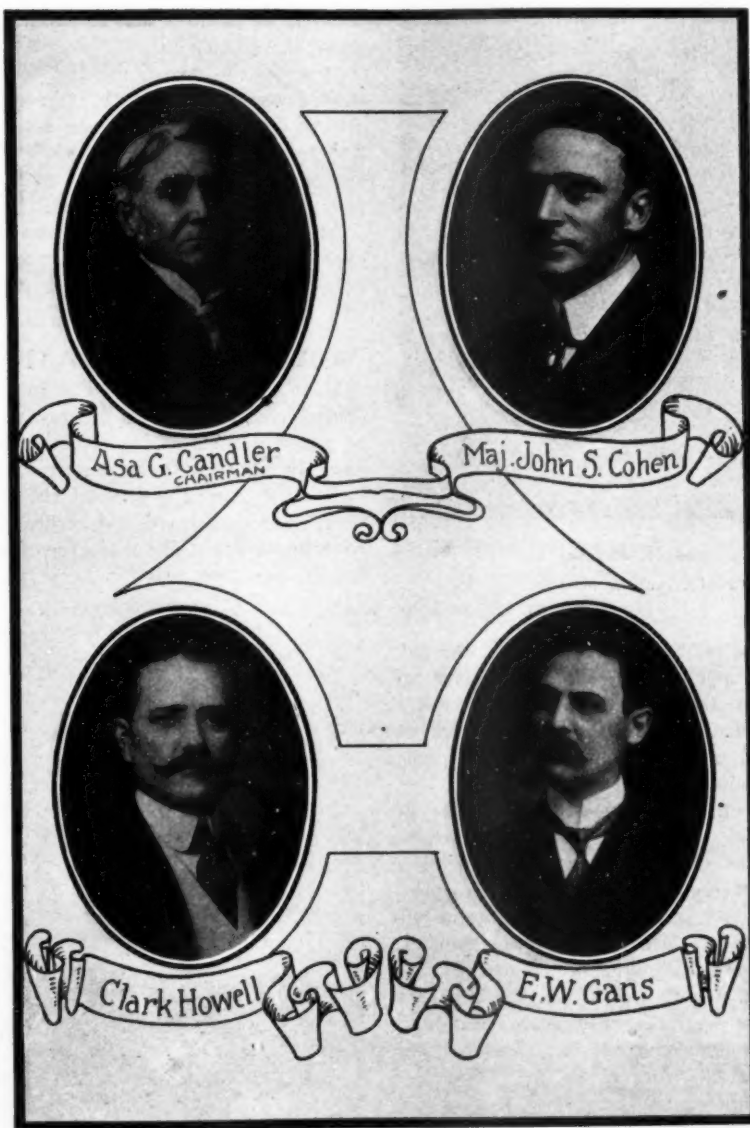
We were aware of the fact that only two National shows

were authorized by the National Association of Automobile Manufacturers—one at New York and the other at Chicago—and that numerous applications had been made by other large cities the country over for the authorization that would put them on the same basis as New York and Chicago.

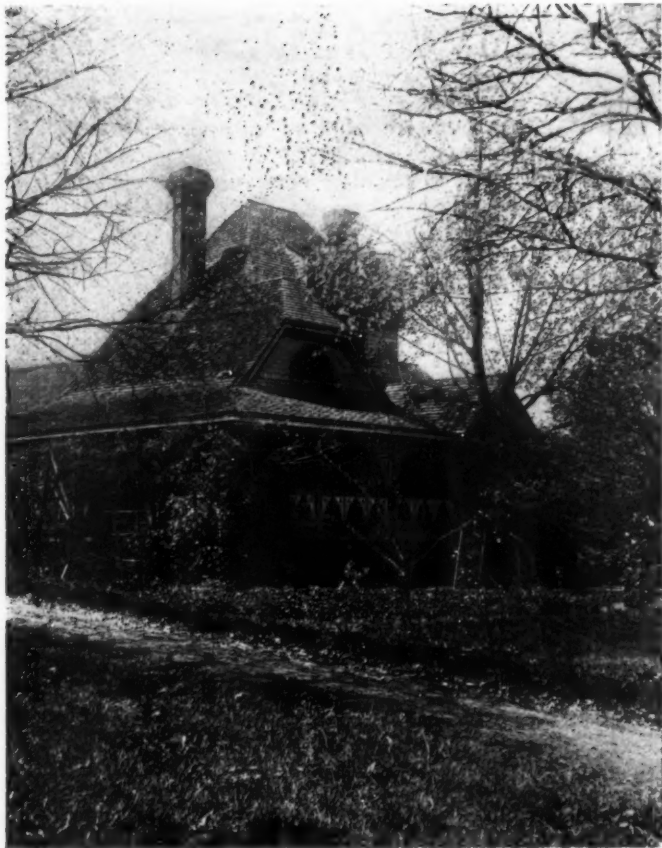
Why not Atlanta, therefore, even though all the other aspiring cities had been turned down and had been told that it would be impossible for them to get anything more than a "dealers' show," which had been successfully conducted in Boston, Pittsburgh, Cincinnati, St. Louis, Denver, San Francisco, and a host of other cities, without in any wise involving the National association, or committing it to a responsibility which it was unwilling to assume beyond New York and Chicago.

So we were told to go right ahead and arrange for a "dealers' show"—that we would have the best wishes of the National association, but that none of the manufacturers could exhibit unless their local dealers saw fit to do so, which, it was suggested, could very easily be arranged by the co-operation of the local dealers themselves.

The first suggestion of a National automobile show for Atlanta had been made through the columns of the *Atlanta Constitution*, which editorially took the position that as Atlanta was the commercial center of the great section represented in the South Atlantic and Gulf States, and as the natural crossing point of travel to and from all this section, it should stand for the South just where New York stood for the States in the East and Chicago for the West, and that if the automobile industry could be impressed with the wonderful possibilities of Southern development and the advantage of Atlanta as the distributing center of the Entire South, the National association could be induced to make an exception in Atlanta's favor and put it upon the same basis as the other National shows.



The Atlanta Show Committee



FROM STEREOGRAPH, COPYRIGHT, BY UNDERWOOD & UNDERWOOD, NEW YORK
Once the Home of Joel Chandler Harris

So it became a question of a National show or nothing!

A committee of seven was appointed to take the matter up with the executive committee of the National association, and I happen to know of the spirit that actuated that meeting and of the result obtained, for I was one of the seven, and my colleagues did me the honor to make me their spokesman.

We had an engagement to meet the executive committee at the association's headquarters at 7 East Forty-second Street, in New York City, and before the meeting almost every member of the committee in casual conversation had endeavored to pave the way for a soft place to receive our fall, preparing us in advance to meet the disappointment which they felt was coming.

But Benjamin Briscoe, the Maxwell king, a member of the committee, had chanced to be in Atlanta only a few weeks before and had seen the magnificent Auditorium-Armory Building, which had just been constructed by the city, and had had an opportunity to observe some of the "Atlanta Spirit."

"Boys," said he to the Atlanta committee, "those fellows are perfectly honest in their belief that it would be an unwise thing to authorize a National show for Atlanta, and they think they are not going to do it. But if you make the showing to them that you have made to me, and if they can be made to understand the situation as I have seen it, you will get the show."

The meeting occurred during the first week in May of the present year, and to make a long story short Atlanta got the first National show for 1910—to be followed by the National shows in Chicago and New York—these three cities being the only three whose shows are conducted under the auspices of the National association and at which exhibits are made direct by the national manufacturers of cars and accessories.

Incident to and built around the Automobile Show are various automobile attractions, such as the Speedway contest to take place at the \$250,000 autodrome on the suburbs of the city; the State Good Roads Automobile contests from Augusta,

Savannah, Albany, Fitz-Gerald, Dublin, and Birmingham, all centering in Atlanta, and the New York-to-Atlanta highway contest, all of these taking place during Automobile Week, which will begin November 6 and end November 13.

These varied automobile attractions have literally centered the interest of the automobile world on Atlanta, and every indication points to the fact that from the standpoint of the automobilist and the automobile industry, the week will be one of unprecedented interest in the annals of the trade in this country.

And just now the South, being at the top notch of prosperity with 13 1-2-cent cotton, will meet the trade more than half way.

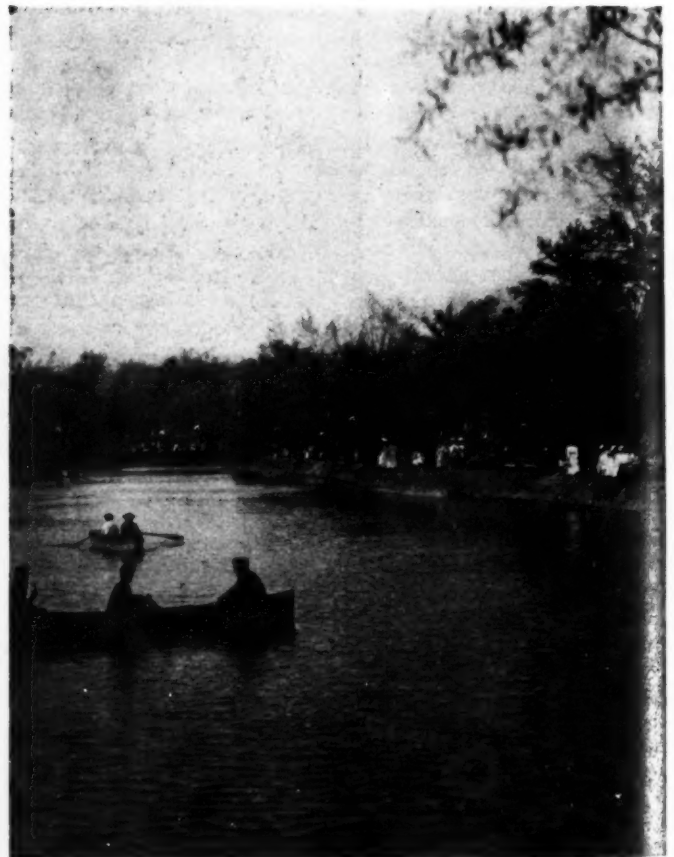
The farmers of the State of Georgia alone will realize in cash this year \$100,000,000 from their cotton, not to speak of the many more millions that will come from the manufactured goods and the by-products.

It seems that the South has entered upon an era of unprecedented prosperity, and that the problem of the country people moving to the cities is being solved by automobiles, telephones, and good roads, bringing the schools within convenient reach of the farm house, and opening up facilities which have heretofore been denied the country home.

And the day is coming when every successful farmer will own his automobile—for he needs it even more than his city neighbors. What's more, he is able to pay for what he wants.

AUTOMOBILE SITUATION "DOWN MOBILE"

MOBILE, ALA., Oct. 30—The motor car situation in Mobile is one which holds out the greatest of promise. A city of upward of 70,000 people, having attained this growth mostly during the past six years, with large office buildings growing, it has paid little heed to motoring until recently. At the present time the number of cars taxed and recorded in the office of the city tax collector is 153. The majority of this number was bought during the past two years.



FROM STEREOGRAPH, COPYRIGHT, BY UNDERWOOD & UNDERWOOD, NEW YORK
A Picturesque Corner of Atlanta City Park

The List of Exhibitors

Apperson Bros. Auto Company..... Kokomo, Ind.
 Austin Automobile Company..... Grand Rapids, Mich.
 Autocar Company..... Ardmore, Pa.
 Babcock Electric Carriage Company..... Buffalo, N. Y.
 Baker Motor Vehicle Company..... Cleveland, Ohio.
 Bartholomew Company..... Peoria, Ill.
 Black Mfg. Company..... Chicago, Ill.
 Brush Runabout Company..... Detroit, Mich.
 Buckeye Manufacturing Company..... Anderson, Ind.
 Cadillac Motor Car Company..... Detroit, Mich.
 Cartercar Company..... Pontiac, Mich.
 Chalmers-Detroit Motor Company..... Detroit, Mich.
 Columbus Buggy Company..... Columbus, Ohio.
 Dayton Motor Car Company..... Dayton, Ohio.
 Elmore Manufacturing Company..... Clyde, Ohio.
 Ford Motor Company..... Detroit, Mich.
 H. H. Franklin Manufacturing Company..... Syracuse, N. Y.
 Great Western Automobile Company..... Peru, Ind.
 Hudson Motor Car Company..... Detroit, Mich.
 Hupp Motor Car Company..... Detroit, Mich.
 Jackson Automobile Company..... Jackson, Mich.
 Jewel Carriage Company..... Cincinnati, Ohio.
 Thomas B. Jeffery & Company..... Kenosha, Wis.
 Knox Automobile Company..... Springfield, Mass.
 Locomobile Company of America..... Bridgeport, Conn.
 Marion Motor Car Company..... Indianapolis, Ind.
 Maxwell-Briscoe Motor Company..... Tarrytown, N. Y.
 W. H. McIntyre Company..... Auburn, Ind.
 Metz Company..... Waltham, Mass.
 Mitchell Motor Car Company..... Racine, Wis.

Moline Automobile Company..... East Moline, Ill.
 Moon Motor Car Company..... St. Louis, Mo.
 Mora Automobile Company..... Newark, N. Y.
 National Motor Vehicle Company..... Indianapolis, Ind.
 Nordyke & Marmon Company..... Indianapolis, Ind.
 Olds Motor Works..... Lansing, Mich.
 Overland Automobile Company..... Indianapolis, Ind.
 Packard Motor Car Company..... Detroit, Mich.
 Peerless Motor Car Company..... Cleveland, Ohio.
 Pennsylvania Auto-Motor Company..... Bryn Mawr, Pa.
 Pierce-Arrow Motor Car Company..... Buffalo, N. Y.
 Pope Manufacturing Company..... Hartford, Conn.
 Premier Motor Manufacturing Company..... Indianapolis, Ind.
 Rapid Motor Vehicle Company..... Pontiac, Mich.
 Rauch & Lang Carriage Company..... Cleveland, Ohio.
 Renault Frères Selling Agency..... New York City.
 Reo Motor Car Company..... Lansing, Mich.
 St. Louis Car Company..... St. Louis, Mo.
 Selden Motor Vehicle Company..... Rochester, N. Y.
 Speedwell Motor Car Company..... Dayton, Ohio.
 F. B. Stearns Company..... Cleveland, Ohio.
 Stevens-Duryea Company..... Chicopee Falls, Mass.
 Streater Motor Car Company..... Streater, Ill.
 Studebaker Automobile Company..... Cleveland, Ohio.
 Sultan Motor Company..... New York City.
 White Company..... Cleveland, Ohio.
 Winton Motor Carriage Company..... Cleveland, Ohio.
 Woods Motor Vehicle Company..... Chicago, Ill.
 York Motor Car Company..... York, Pa.

ACCESSORY EXHIBITORS

CARBURETERS

Byrne, Kingston & Company..... Kokomo, Ind. M
 Stromberg Motor Devices Co..... Chicago, Ill. 2

HORNS, LAMPS, SPEEDOMETERS

Badger Brass Mfg. Company..... Kenosha, Wis. 1
 Gabriel Horn Manufacturing Company..... Cleveland, Ohio..... M
 Jones Speedometer Company..... United Mfrs. N. Y. 1
 Veeder Mfg. Company..... Hartford, Conn. 1

IGNITION

Connecticut Tel. & Electric Company..... United Mfrs. N. Y. 1
 Electric Storage Battery Company..... Philadelphia, Pa. 1
 Herz & Company..... New York City..... 2
 Kokomo Electric Company..... Kokoma, Ind. M
 C. A. Mezger..... United Mfrs. N. Y. 1
 National Carbon Company..... Cleveland, Ohio..... M
 Never-Miss Spark Plug Company..... Lansing, Mich. 2
 C. H. Splittdorf..... New York City..... M
 Lavalette & Company..... New York City..... 2

JOBBER

Emil Grossman Company..... New York City..... 2
 Post & Lester..... Hartford, Conn. 2
 Charles E. Miller..... New York City..... 2

LUBRICANTS

Adam Cook's Sons..... New York City..... 2
 Jos. Dixon Crucible Company..... Jersey City, N. J. M
 A. W. Harris Oil Company..... Providence, R. I. 1
 N. Y. & N. J. Lubricant Company..... United Mfrs. N. Y. 1

MOTORCYCLES

Milton W. Arrowood Company..... Atlanta, Ga. 2
 Aurora Automatic Machine Company..... Chicago, Ill. 2
 Consolidated Manufacturing Company..... Toledo, Ohio 2
 Excelsior Supply Company..... Chicago, Ill. 2
 Greyhound Motor Works..... Buffalo, N. Y. 2
 Hendee Manufacturing Company..... Springfield, Mass. 2
 N. S. U. Motor Company..... New York City..... 2

PAPERS

Auto Era Publishing Company..... Atlanta, Ga. 2
 Chilton Printing Company..... Philadelphia, Pa. 2
 Class Journal Company..... New York City..... 2
 "Motor" New York City..... 2

TIRES

Ajax-Grieb Rubber Company..... Trenton, N. J. M
 Dayton Rubber Mfg. Company..... Dayton, Ohio 2
 Diamond Rubber Company..... Akron, Ohio M
 Dow Tire Company..... New York City..... 2
 Empire Tire Company..... Trenton, N. J. M
 Federal Rubber Company..... Milwaukee, Wis. M
 Firestone Tire & Rubber Company..... Akron, Ohio M
 Fisk Rubber Company..... Chicopee Falls, Mass. 1
 G & J Tire Company..... Indianapolis, Ind. M
 B. F. Goodrich Company..... Akron, Ohio 1
 Goodyear Tire & Rubber Company..... Akron, Ohio M
 Hartford Rubber Works Company..... Hartford, Conn. M
 Leather Tire Goods Company..... Niagara Falls, N. Y. 2
 Michelin Tire Company..... Milltown, N. J. M
 Morgan & Wright..... Detroit, Mich. M
 Republic Rubber Company..... Youngstown, Ohio M
 Rutherford Rubber Company..... Rutherford, N. J. 2
 C. A. Shaler Company..... Waupun, Wis. 2
 Weed Chain Tire Grip Company..... United Mfrs. N. Y. 1

TOPS AND WIND-SHIELDS

Ajax Trunk & Sample Case Company..... New York City..... 2
 Chicago Wind Shield Company..... Chicago, Ill. 2
 Sprague Umbrella Company..... Norwalk, Ohio 2
 Vehicle Apron & Hood Company..... Columbus, Ohio 2

MISCELLANEOUS

S. F. Bowser & Company..... Ft. Wayne, Ind. 2
 Cloud-Stanford Company..... Atlanta, Ga. 2
 Hartford Suspension Company..... Jersey City, N. J. M
 High Wheel Auto Parts Company..... Muncie, Ind. 2
 Oliver Manufacturing Company..... Chicago, Ill. M
 W. F. Polson..... Buffalo, N. Y. 2
 Randall-Falchney Company..... Boston, Mass. 2
 Shipman Instrument Company..... Sunbury, Pa. 2

Cars of the Show and their Prices

Under \$1,000					
\$378	Metz (unassembled).....	Runabout	\$1,750	Elmore 36	Touring
\$485	Brush	Runabout	\$1,750	Franklin	Runabout
\$500	Billy 4-20	Runabout	\$1,750	McIntyre M-20	Touring
\$500	Reo	Runabout	\$1,800	Rambler "53"	Touring
\$550	Maxwell AA	Runabout	\$1,850	Franklin	Touring
\$600	Metz	Runabout	\$2,000 to \$2,499		
\$600	McIntyre A-1	Runabout	\$2,000	Apperson 4-30	Touring
\$750	Hupmobile	Runabout	\$2,000	Lambert	Touring
\$750	Studebaker-Flanders	Surrey	\$2,000	Pennsylvania D	Runabout
\$800	Lambert	Runabout	\$2,000	Pullman K-10	Touring
\$850	Maxwell Q	Runabout	\$2,000	Selden	Touring
\$900	Hudson 20	Roadster	\$2,000	White Gasoline	Touring
\$900	Ford	Roadster	\$2,000	White Steam	Touring
\$950	Ford	Touring	\$2,100	Pennsylvania D	Touring
\$1,000 to \$1,499			\$2,250	Rambler "54"	Touring
\$1,000	Maxwell Q	Touring	\$2,350	Jackson 50	Touring
\$1,000	Overland "38"	Runabout	\$2,400	Glide	Roadster
\$1,000	Reo	Touring	\$2,500 to \$2,999		
\$1,050	Black-Crow D		\$2,500	Elmore 46	Touring
\$1,050	Ford	Coupe	\$2,500	National 40	Touring
\$1,100	Cartercar H	Roadster	\$2,500	Glide	Touring
\$1,100	Ford	Landulet	\$2,500	Moline K	Touring
\$1,100	Mitchell R	Roadster	\$2,500	Mora	Touring
\$1,125	Cartercar H	Surrey	\$2,500	Premier 40	Touring
\$1,125	Cartercar H	Baby Tonneau	\$2,500	Rambler "55"	Touring
\$1,200	Ford	Town Car	\$2,500	Selden	Touring 7
\$1,250	Ford	Limousine	\$2,500	Speedwell	Touring
\$1,250	Jackson 30	Touring	\$2,500	White Gasoline	Touring 7
\$1,250	Lambert 30	Touring	\$2,650	Marmon 32	Touring
\$1,250	McIntyre M-4	Touring	\$2,650	Stoddard-Dayton 10-K	Roadster
\$1,250	Overland "40"	Roadster	\$2,700	Franklin D	Surrey
\$1,250	Reo 30-35	Touring	\$2,750	Chalmers-Detroit 40	Touring
\$1,250	Studebaker E. M. F.	Touring	\$2,750	Pope-Hartford T.	Touring
\$1,350	Mitchell T	Touring	\$2,750	Stoddard-Dayton 10-K	Baby Tonneau
\$1,350	Petrel	Runabout	\$2,800	Franklin D	Touring
\$1,400	Overland "41"	Touring	\$2,800	Stoddard-Dayton 10-F	Touring 7
\$1,500 to \$1,999			\$2,800	Stoddard-Dayton 10-T	Town Car
\$1,500	Chalmers-Detroit 30.	Touring	\$2,850	Stevens-Duryea XXX	Roadster
\$1,500	Maxwell E.	Touring	\$2,850	Stevens-Duryea XXX	Baby-Tonneau
\$1,500	Moline M.	Touring	\$3,000 to \$3,499		
\$1,500	Moon 30	Touring	\$3,000	Apperson 4-40	Touring
\$1,500	Overland "42"	Touring	\$3,000	Moon 45	Touring
\$1,500	Petrel	Touring	\$3,000	Oldsmobile	Touring
\$1,500	Stoddard-Dayton 10-H	Runabout	\$3,000	Pennsylvania C	Touring
\$1,600	Cadillac 30	Touring	\$3,000	Pennsylvania D	Landulet
\$1,600	Cartercar L	Touring	\$3,000	Pope-Hartford T.	Touring 7
\$1,600	Great Western	Touring	\$3,000	Pullman M	Touring
\$1,600	Pullman O	Baby Tonneau	\$3,000	Selden	Limousine
\$1,600	Stoddard-Dayton 10-B	Touring	\$3,000	Standard Six	Touring
\$1,700	Jackson 40	Touring	\$3,100	Knox R	Runabout
\$1,750	Autocar XX	Touring	\$3,200	Franklin K	Town Car
			\$3,200	Packard 18	Roadster
GASOLINE					
Apperson	Locomobile	Pope-Hartford	Hupmobile	Packard	Stoddard-Dayton
Austin	Lambert	Premier	Halladay	Peerless	Winton
Autocar	Marion	Pullman	Jackson	Pennsylvania	White
Brush	Maxwell	Rambler	Jewel	Petrel	
Black	McIntyre	Renault	Knox	Pierce-Arrow	
Cadillac	Metz	Reo		ELECTRIC	
Cartercar	Mitchell	Standard	Babcock	Columbus	Studebaker
Chalmers-Detroit	Moline	Selden	Baker	Rauch & Lang	Woods
Elmore	Moon	Speedwell		STEAM	
Ford	Mora	Stearns		White	
Franklin	Marmon	Stevens-Duryea		COMMERCIAL	
Great Western	National	Studebaker-Flanders		Rapid	Studebaker
Glide	Oldsmobile	Studebaker-E-M-F	Packard		
Hudson	Overland	Studebaker-Garford			

STRUCTURAL TENDENCIES IN ATLANTA EXHIBITS

DETAILS now form the field of the investigator in automobile design, and points which a few years ago would have been passed over unnoticed are now subjects for scare-heads. But there are two marked tendencies at present which are worthy of far more attention than they have hitherto received; namely, the abolition of the water pump and the similar fate of the spark-advance lever.

Thermo-syphon circulation, more familiarly known as natural circulation, has had a limited adherence from the earliest days of the industry. Renault and Brasier, of France, have employed it with the greatest success, even on their racing cars which won the Gordon Bennett and the Grand Prix. In this

country Maxwell has always been a firm believer in this simpler method. Until quite recently, however, its spread has been slow. Now Brush, Elmore, Ford, Hupmobile, Jackson and Moline, as well as the pioneers, Maxwell and Renault, and the happily named "Billy" of local production, all appear with pumpless motors.

Although there has been no such unanimous movement against the spark-advance lever, yet the handwriting has appeared on the wall. This reform, too, was inaugurated by the French pair, Brasier and Renault, and by the Italian Fiat. Its principal American exponent has been the Franklin. Magneto ignition has made the fixed spark capable of universal adaptation, and its use offers many advantages in simplicity and economy.

DETAILS OF THE 1910 CARS, EXHIBITED AT THE FIRST ANNUAL SOUTHERN NATIONAL SHOW, ATLANTA, GA., NOVEMBER 6-13, 1909

MAKE AND MODEL	Price	H.P.	BODY		MOTOR		COOLING		IGNITION		Lubrication	Clutch	TRANSMISSION		WHEEL		BEARINGS			TIRE					
			Type	Seats	Cylinders	Bore	Stroke	Radiator	Pump	Magnet			Battery	Drive	Type	Speeds	Base	Track	Frame	Motor	Transmis- sion	Axle	Weight	Front	Rear
Apperson 4-30	\$2000		Touring	4	4	4							3	Shaft...	112	P. steel						34x4	34x4		
Apperson 6	2450		Touring	4	4	4							3	Shaft...	122	P. steel						36	36		
Apperson 4-40	3000		Touring	4	4	4							3	2-chain...	116	P. steel						36	36		
Apperson 4-50	4200		Runabout	2	4	4							4	Shaft...	128	P. steel						36	36		
Apperson 4-60	4200		Touring	6	4	4							3	Shaft...		P. steel									
Autocar XX	1750	25.6	Touring	5	4	4			Bosch				3	Shaft...		P. steel	Plain	Roller	Roller			34	34		
Billy 4-30	500	18.2	Runabout	2	4	3 1/2	4 1/2 V. tubes	None	None	Storage	Pump	Cone	Sel.	2	Shaft...	88	P. steel			Roller		32x3	32x3		
Black-Crow D	1050		Surrey	4	4																1,000				
Brush	485	6.4	Runabout	2	1	4	5		None				2	2-chain...	80	56 1/2	Wood	.2 plain	Ball	Ball		28x3 1/2	28x3 1/2		
Cadillac 30	1600	28.9	Touring	5	4	4 1/2	4 1/2 V. tubes	Gear	Spit'd f.	Dry	Pump	Cone	Sel.	3	Shaft...	110	56 1/2	P. steel	.5 plain	Roller	Roller	34x4	34x4		
Cartcar H	1100	25.6	Roadster	3	4	4	4		None	Storage	Pump	None	Frict'n	1	1-chain...	100	56	P. steel	.3 plain			32x3	32x3		
Cartcar L	1600	28.9	Touring	5	4	4 1/2	4 1/2		Spit'd f.	Storage	Pump	None	Frict'n	1	1-chain...	110	56	P. steel	.3 plain			32x3 1/2	32x3 1/2		
Chalmers-Detroit 30	1500	25.6	Touring	5	4	4	4 1/2 V. tubes	Centrif'l	Extra	Storage	Pump	Disc	Sel.	3	Shaft...	115	56	P. steel	.2 ball	Ball	Roller	34x3 1/2	34x3 1/2		
Chalmers-Detroit 40	2750	40.0	Touring	5	4	5	4 1/2 H' comb.	Centrif'l	Bosch	Storage	Pump	Cone	Sel.	3	Shaft...	120	56	P. steel	.3 plain	Ball	Roller	36x4	36x4		
Elmore 36	1750		Touring	5	4	4 1/2	4 V. tubes	None	None	Dry	6 mech.	Con. b'd	Sel.	3	Shaft...	110	56	P. steel	.5 plain	Ball	Roller	2,400	34x4		
Elmore 46	2500		Touring	5	4	4 1/2	4 V. tubes	None	None	Dry	6 mech.	Con. b'd	Sel.	3	Shaft...	120	56	P. steel	.5 plain	Ball	Roller	2,800	36x4		
Ford	950	22.5	Touring	5	4	3 1/2	4 V. tubes	None	Ford	None	Splash	Disc	Plan	2	Shaft...	100	56	P. steel	.3 plain	Plain	Roller	1,200	30x3		
Franklin G	1850	18.2	Touring	4	4	5	4 Air c'l'd.	Air c'l'd.	Bosch	None	Mech'l.	Disc	Sel.	3	Shaft...	91 1/2		Wood	.5 plain			32x3 1/2	32x4		
Franklin K-4	3200	18.2	Town car	4	4	5 1/2	4 Air c'l'd.	Air c'l'd.	Bosch	None		Disc	Sel.	3	Shaft...	100		Wood	.3 plain			30x3 1/2	30x4		
Franklin D	2800	28.9	Touring	5	4	4 1/2	4 Air c'l'd.	Air c'l'd.	Bosch	None		Disc	Sel.	3	Shaft...	106		Wood	.3 plain			36x4	36x4 1/2		
Franklin D	4000	28.9	Limousine	5	4	4 1/2	4 Air c'l'd.	Air c'l'd.	Bosch	None		Disc	Sel.	3	Shaft...	114		Wood	.3 plain			34x4	34x4 1/2		
Franklin H	3750	43.8	Touring	7	6	4 1/2	4 Air c'l'd.	Air c'l'd.	Bosch	None		Disc	Sel.	3	Shaft...	127		Wood	.7 plain			36x4 1/2	37x5		
Glide 45	2500	36.1	Touring	5	4	4 1/2	5		Eise'n	Storage	Pump	Disc	Sel.	3	Shaft...	120	56 1/2	P. steel	Plain	Roller	Roller	36x4 1/2	36x4 1/2		
Great Western 30	1600	28.9	Touring	5	4	4 1/2	5		Centrif'l		Pump	Cone	Sel.	3	Shaft...	112	56 1/2	P. steel	Plain			34x3 1/2	34x3 1/2		
Halleday																									
Hudson 20	900	22.5	Roadster	3	4	3 1/2	4 1/2 V. tubes	Centrif'l	Extra	Dry	Pump	Cone	Sel.	3	Shaft...	100	56	P. steel	.3 plain	Plain	Roller	1,700	32x3		
Hupmobile	750	16.9	Runabout	2	4	3 1/2	3 1/2		Bosch		Splash	Disc	Sel.	2	Shaft...	86	56	P. steel	.3 plain	Plain		1,100	30x3		
Jackson 30	1250	25.6	Touring	5	4	4	4 H' comb.	None	Solid f.	Dry	Splash	Cone	Sel.	3	Shaft...	105	56 1/2	P. steel	.5 plain	Ball	Roller		32x3 1/2		
Jackson 40	1700	32.4	Touring	5	4	4 1/2	4 H' comb.	None	Solid f.	Dry	Splash	Disc	Sel.	3	Shaft...	110	56 1/2	P. steel	.5 plain	Ball	Roller		34x4		
Jackson 50	2350	36.1	Touring	5	4	4 1/2	4 H' comb.	None	Solid f.	Dry	Splash	Disc	Sel.	3	Shaft...	120	56 1/2	P. steel	.5 plain	Ball	Roller		36x4		
Jewel		28.9	Touring		4	4 1/2	4 1/2 Cellular	None	Spit'd f.	Dry	Splash	Plate	Sel.	3	Shaft...	115	56	P. steel	.3 plain	Ball	Ball	2,300	34x4		
Knorr R	3100	40.0	Runabout	1	4	5	4 1/2	Centrif'l	Bosch	Storage	Pump	Plate	Sel.	3	Shaft...	102		P. steel	.5 plain	Ball	Ball		36x4		
Knorr M	3250	40.0	Touring	5	4	5	4 1/2	Centrif'l	Bosch	Storage	Pump	Plate	Sel.	3	Shaft...	117		P. steel	.5 plain	Ball	Ball	3,000	36x4		
Knorr K	5000	48.4	Touring	5	4	5 1/2	4 1/2	Centrif'l	Bosch	Storage	Pump	Plate	Sel.	3	Shaft...			P. steel	.5 plain	Ball	Ball				
Knorr S	57.0		Touring	6	4	4 1/2	4 1/2	Centrif'l	Bosch	Storage	Pump	Plate	Sel.	3	Shaft...			P. steel	.7 plain	Ball	Ball				
Locomobile 30	3500	32.4	Touring	5	4	4 1/2	4 1/2 H' comb.	Centrif'l	Make & break	None	3 mech	Cone	Sel.	4	Shaft...	120		P. steel	.3 plain	Ball	Ball		34x4 1/2		
Locomobile 40	4500	40.0	Touring	7	4	5	6 H' comb.	Centrif'l		None	3 mech	Cone	Sel.	4	2-chain...	123		P. steel	.3 plain	Ball	Ball		36x4		
Lambert	800																								
Lambert 30	1250																								
Lambert	2000																								
Marion	28.9		Roadster	3	4	4 1/2	4 1/2 H' comb.	Centrif'l	Spit'd f.	Dry	Pump	Disc	Sel.	3	Shaft...	112	56 1/2	P. steel	.3 plain	Roller	Roller	2,150	34x4		
Marmon 32	2650	32.4	Touring	5	4	4 1/2	5						Sel.	3	Shaft...	116		P. steel	.3 plain						
Maxwell AA	550	12.8	Runabout	2	2	4	4 Cellular	None	Solid f.	Dry	Splash	Disc	Plan	2	Shaft...	82	56 1/2	P. steel	.2 plain	Plain	Roller	1,150	28x3		
Maxwell O	850	22.5	Runabout	2	4	3 1/2	4 Cellular	None	Solid f.	Dry	Splash	Disc	Prog	3	Shaft...	93	56 1/2	P. steel	.3 plain	Roller	Roller	1,500	30x3 1/2		
Maxwell E	1500	28.9	Touring	5	4	4 1/2	4 1/2 Cellular	None	Solid f.	Dry	Splash	Disc	Prog	3	Shaft...	108	56 1/2	P. steel	.5 plain	Roller	Roller	2,500	34x4		

DETAILS OF THE 1910 CARS, EXHIBITED AT THE FIRST ANNUAL SOUTHERN NATIONAL SHOW, ATLANTA, GA., NOVEMBER 6-13, 1909 (Continued)

MAKE AND MODEL	BODY			MOTOR		COOLING		IGNITION		Lubrication	TRANSMISSION			WHEEL		BEARINGS			TIRES						
	Price	H. P.	Type	Seats	Cylinders	Bore	Stroke	Radiator	Pump		Magneto	Battery	Clutch	Type	Speeds	Drive	Base	Track	Frame	Motor	Transmis- sion	Axle	Weight	Front	Rear
McIntyre A-1	\$600	13.6	Runabout	2	2	4 1/2	3 1/2	None	None	Extra	Dry	Pump	Plate	Plan	2	2-chain	90	*56	P. steel	2 plain	Ball	Ball	550	30x3	30x3
McIntyre M-4	1250	27.2	Touring	5	4	4 1/2	3 1/2	None	None	Split f.	Dry	Pump	Cone	Sel.	3	Shaft	112	*56	P. steel	3 plain	Roller	Roller	550	30x3 1/2	30x3 1/2
Metz	600	9.8	Runabout	2	2	3 1/2	3 1/2	Air c'l'd.	Air c'l'd.	Bosch	None	Splash	None	Frict'n	3	2-chain	81	56 1/2	P. steel	2 ball	Ball	Ball	550	28x2 1/2	28x2 1/2
Mitchell R	1100	28.9	Roadster	3	4	4 1/2	5	Centrif'l.	Centrif'l.	Split f.	Dry	6 mech.	Cone	Sel.	3	Shaft	100	*56 1/2	P. steel	3 plain	Roller	Roller	550	34x3 1/2	34x3 1/2
Mitchell T	1350	28.9	Touring	5	4	4 1/2	5	Centrif'l.	Centrif'l.	Split f.	Dry	6 mech.	Cone	Sel.	3	Shaft	112	*56 1/2	P. steel	3 plain	Roller	Roller	550	34x3 1/2	34x3 1/2
Mitchell S	2000	43.8	Touring	7	6	4 1/2	5	Centrif'l.	Centrif'l.	Split f.	Dry	8 mech.	Cone	Sel.	3	Shaft	130	56 1/2	P. steel	4 plain	Roller	Roller	550	36x4	36x4
Moline M	1500	25.6	Touring	5	4	4	4 1/2	Centrif'l.	Centrif'l.	Bosch	None	Cone	Cone	Sel.	3	Shaft	110	56	P. steel	3 plain	Roller	Roller	550	34x3 1/2	34x3 1/2
Moline K	2500	28.9	Touring	5	4	4 1/2	5	Centrif'l.	Centrif'l.	Bosch	None	Cone	Cone	Sel.	3	Shaft	110	56	P. steel	3 plain	Roller	Roller	550	34x3 1/2	34x3 1/2
Moon 30	1500	28.9	Touring	5	4	4 1/2	5	Centrif'l.	Centrif'l.	Bosch	None	Cone	Cone	Sel.	3	Shaft	110	56	P. steel	3 plain	Roller	Roller	550	34x4	34x4
Moon 45	3000	36.1	Touring	5	4	4 1/2	5	Centrif'l.	Centrif'l.	Bosch	None	Cone	Cone	Sel.	3	Shaft	120	56 1/2	P. steel	3 plain	Roller	Roller	550	36x4	36x4 1/2
Mora	2500	32.4	Touring	5	4	4 1/2	5 1/2	Centrif'l.	Centrif'l.	Bosch	None	Pump	Cone	Sel.	3	Shaft	112	56	P. steel	3 plain	Roller	Roller	550	34x4	34x4
National 40	2500	40.0	Touring	5	4	5	5 1/2	H' comb.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	3	Shaft	124	56 1/2	P. steel	5 ball	Ball	Ball	3,000	36x4	36x4
National 60	4200	48.6	Touring	5	6	4 1/2	5 1/2	H' comb.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	3	Shaft	130	56 1/2	P. steel	7 ball	Ball	Ball	3,350	36x4 1/2	36x4 1/2
National 60	5000	60.0	Touring	5	6	5	5 1/2	H' comb.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	3	Shaft	137	56 1/2	P. steel	7 ball	Ball	Ball	3,500	36x4 1/2	36x4 1/2
Oldsmobile	3000	36.1	Touring	5	4	4 1/2	4 1/2	H' comb.	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	4	Shaft	118	56	P. steel	3 plain	Roller	Roller	550	36x4	36x4
Oldsmobile	4600	54.1	Runabout	2	6	4 1/2	4 1/2	H' comb.	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	4	Shaft	118	56	P. steel	4 plain	Roller	Roller	550	42x4 1/2	42x4 1/2
Oldsmobile	4600	54.1	Touring	7	6	4 1/2	4 1/2	H' comb.	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	4	Shaft	130	56	P. steel	4 plain	Roller	Roller	550	42x4 1/2	42x4 1/2
Overland "38"	1000	22.5	Runabout	2	4	3 1/2	4 1/2	Cellular	None	Remy	Dry	Plate	Plate	Plan	2	Shaft	102	56	P. steel	5 plain	Plain	Plain	1,850	32x3 1/2	32x3 1/2
Overland "41"	1400	28.9	Touring	5	4	4 1/2	4 1/2	Cellular	None	Remy	Dry	Plate	Plate	Plan	2	Shaft	112	56	P. steel	5 plain	Plain	Plain	2,200	34x4	34x4
Overland "42"	1500	28.9	Touring	5	4	4 1/2	4 1/2	Cellular	None	Remy	Dry	Plate	Plate	Sel.	3	Shaft	112	56	P. steel	5 plain	Plain	Plain	2,200	34x4	34x4
Packard 18	2600	26.4	Roadster	3	4	4 1/2	4 1/2	H' comb.	Centrif'l.	Eiseman	Storage	Pump	Plate	Prog.	3	Shaft	112	56	P. steel	3 plain	Roller	Roller	550	34x4	34x4
Packard 30	4200	40.0	Roadster	5	4	4 1/2	4 1/2	H' comb.	Centrif'l.	Eiseman	Storage	Pump	Plate	Prog.	3	Shaft	112	56	P. steel	3 plain	Roller	Roller	550	34x4	34x4
Packard 30	4200	40.0	Touring	7	4	4 1/2	4 1/2	H' comb.	Centrif'l.	Eiseman	Storage	Pump	Plate	Prog.	3	Shaft	112	56	P. steel	3 plain	Roller	Roller	550	34x4	34x4
Peelers 20	25.6	38.0	Roadster	3	4	4	4 1/2	Gear	Centrif'l.	Bosch	Storage	3 mech.	Ex. band	Sel.	4	Shaft	113	56	P. steel	3 plain	Ball	Ball	550	32x3 1/2	32x3 1/2
Peelers 30	4300	38.0	Touring	5	4	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Storage	3 mech.	Ex. band	Sel.	4	Shaft	118 1/2	56	P. steel	3 plain	Ball	Ball	550	36x4	36x4
Peelers 30	4300	38.0	Touring	7	4	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Storage	3 mech.	Ex. band	Sel.	4	Shaft	122	56	P. steel	3 plain	Ball	Ball	550	36x4	36x4
Peelers 30	6000	57.0	Roadster	5	0	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Storage	4 mech.	Ex. band	Sel.	4	Shaft	132 1/2	56	P. steel	4 plain	Ball	Ball	550	36x4	36x4
Peelers 50	6000	57.0	Touring	7	6	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Storage	4 mech.	Ex. band	Sel.	4	Shaft	136	56	P. steel	4 plain	Ball	Ball	550	36x4	36x4
Pennsylvania D	2100	28.9	Touring	5	4	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Dry	3 mech.	Cone	Sel.	3	Shaft	110	56	P. steel	3 plain	Ball	Ball	2,300	32x4	32x4
Pennsylvania C	3000	36.1	Touring	5	4	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Dry	6 mech.	Cone	Sel.	3	Shaft	114	56	P. steel	3 plain	Ball	Ball	2,900	34x4	34x4
Pennsylvania E	3800	38.0	Touring	7	4	4 1/2	4 1/2	Gear	Centrif'l.	Bosch	Dry	6 mech.	Cone	Sel.	3	Shaft	122	56	P. steel	3 plain	Ball	Ball	3,300	36x4	36x4
Petrol	1350	30.6	Runabout	2	4	4 1/2	4 1/2	Cellular	None	None	None	Pump	None	Friction	2	2-chain	108	56	P. steel	3 plain	Roller	Roller	2,000	32x3 1/2	32x3 1/2
Petrol	1500	30.6	Touring	5	4	4 1/2	4 1/2	Cellular	None	None	None	Pump	None	Friction	2	2-chain	113	56	P. steel	3 plain	Roller	Roller	2,000	34x3 1/2	34x3 1/2
Pierce-Arrow 36	3850	38.4	Roadster	3	6	4	4 1/2	Centrif'l.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	4	Shaft	119	56	P. steel	4 plain	Roller	Roller	550	36x4	36x4
Pierce-Arrow 36	4000	38.4	Touring	5	6	4	4 1/2	Centrif'l.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	4	Shaft	125	56	P. steel	4 plain	Roller	Roller	550	36x4	36x4
Pierce-Arrow 48	4050	48.6	Roadster	5	6	4 1/2	4 1/2	Centrif'l.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	4	Shaft	128	56	P. steel	4 plain	Roller	Roller	550	36x4 1/2	36x4 1/2
Pierce-Arrow 48	5000	48.6	Touring	7	6	4 1/2	4 1/2	Centrif'l.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	4	Shaft	134	56	P. steel	4 plain	Roller	Roller	550	36x4 1/2	36x4 1/2
Pierce-Arrow 66	5850	66.2	Roadster	5	6	4 1/2	4 1/2	Centrif'l.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	4	Shaft	133 1/2	56	P. steel	4 plain	Roller	Roller	550	37x5	37x5
Pierce-Arrow 66	6000	66.2	Touring	7	6	4 1/2	4 1/2	Centrif'l.	Centrif'l.	Bosch	Storage	Pump	Cone	Sel.	4	Shaft	140	56	P. steel	4 plain	Roller	Roller	550	37x5	37x5
Pope-Hartford T	2750	29.7	Touring	5	4	4 1/2	5 1/2	Cellular	Centrif'l.	Extra	Storage	4 mech.	Cone	Sel.	3	Shaft	118	56	Armored	3 plain	Roller	Roller	550	36x4	36x4
Premier 4-40	2500	29.7	Touring	5	4	4 1/2	5 1/2	Cellular	Centrif'l.	Make & break	Storage	5 mech.	Disc.	Sel.	3	Shaft	120	56 1/2	P. steel	3 plain	Ball	Ball	550	34x4	34x4
Premier 6-60	3500	36.1	Touring	7	6	4 1/2	4 1/2	Cellular	Centrif'l.	Make & break	Storage	7 mech.	Disc.	Sel.	3	Shaft	136	56 1/2	P. steel	4 plain	Ball	Ball	550	36x4	36x5
Pullman 6	1600	25.6	Surrey	4	4	4	4 1/2	Cellular	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	3	Shaft	112	56 1/2	P. steel	5 plain	Roller	Roller	2,000	34x3 1/2	34x3 1/2
Pullman 10	2000	32.4	Touring	5	4	4 1/2	4 1/2	Cellular	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	3	Shaft	112	56 1/2	P. steel	5 plain	Roller	Roller	2,000	34x3 1/2	34x3 1/2
Pullman 10	3000	32.4	Roadster	7	4	4 1/2	4 1/2	Cellular	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	3	Shaft	112	56 1/2	P. steel	5 plain	Roller	Roller	2,000	34x3 1/2	34x3 1/2
Pullman 10	3500	32.4	Touring	7	4	4 1/2	4 1/2	Cellular	Centrif'l.	Bosch	Dry	Pump	Cone	Sel.	3	Shaft	112	56 1/2	P. steel	5 plain	Roller	Roller	2,000	34x3 1/2	34x3 1/2
Rambler "43"	1800	32.4	Touring	5	4	4 1/2	4 1/2	V. tubes	Centrif'l.	Split f.	Storage	4 mech.	Cone	Sel.	3	Shaft	108	56	P. steel	3 plain	Roller	Roller	550	36x3 1/2	36x3 1/2
Rambler "44"	2250	40.0	Touring	5	4	5	5 1/																		

TABLE OF SPECIFICATIONS FOR 1910

Structural details and dimensions of the gasoline and steam pleasure cars exhibited at the Atlanta Show are listed in the preceding tables. Owing to the earliness of the season, the information about some of these cars remains scanty, and consequently in many items the tables are incomplete. They will, however, suffice to give an idea of the number and quality of the exhibits at this first National show of the South.

Many of the manufacturers have given special attention to Southern peculiarities in respect to wheel tread. The wagons and carriages which use Southern roads almost invariably track 60 or 61 inches, and consequently the ruts are spread too far apart to suit a car with standard tread. For this reason a large percentage of automobile manufacturers make their cars with an optional width of tread of 60 inches. Such cars are indicated in the tables with an asterisk (*) placed against the regular figure for tread or wheel track. Many other makers whose cars are not so marked will supply the Southern standard for a slight extra charge.

A. L. A. M. Formula Rating Employed—The horsepower ratings are in all cases according to the A. L. A. M. formula, disregarding the makers' figures whenever these differ from the standard. It will be obvious that this is the only fair method of comparison. Some makers rate four five-inch cylinders at 30 horsepower, others at 50; the difference is not in the motors, but in the fact that the former rating is at a speed of 600 revolutions per minute, and the latter at 1000 revolutions. Much better give the standard rating of 40.0 and avoid confusing the reader with the additional figures.

Radiators are another source of confusion. In the tables these are divided into three classes, according to their construction: vertical tube, cellular and honeycomb. The vertical tube designation is self-explanatory, with the addition that the component tubes are provided with radiating fins, or pass through closely-spaced metal sheets which answer the same purpose. Cellular radiators are those made up of flat, zigzag tubes, without radiating fins, and the honeycomb type is that originated by the Mercedes, in which the tubes are horizontal and serve for the passage of the air, while the water passes through the interstices between the tubes.

Table Signs and Abbreviations—Pumps, in all cases appearing in the tables, are either of the centrifugal or the gear types, both too well known to need description. A remarkably large number of cars, however, dispense with the pump, circulation being on the thermo-siphon principle, effected simply by the different degrees of heat of the two bodies of water, one in the cylinder jackets and the other in the radiator.

So uniform is the use of high-tension ignition by magneto that it has become superfluous merely to state its presence; and to give the most possible information, the magnetos have been designated by the names of their makers, whenever possible.

The lubrication of the motor cylinders and bearings is another field for standardization. The system of lubrication by a continuous circulation of oil, used over and over, is designated in the tables by the word "Pump." The system in which each cylinder or bearing is fed a definite quantity by an individual pump is indicated by the abbreviation "mech," accompanied by a figure showing the number of such feeds. Splash lubrication is that in which the lubricant is simply injected into the crankcase at stated times.

Clutches are divided into cone, disk, plate, and expanding or contracting band types. Change-gears are either selective, progressive, planetary or friction, all familiar terms, for which the abbreviations will be self-explanatory. The aim throughout the tables has been to avoid confusion by classifying the designs for each part into the smallest possible number of definite types, rather than to attempt to describe each part individually. With each type indicated by a given and uniform sign, reference to the tables is made easy, and yields at once a definite idea of the construction of the car in question. A glance down the columns of the table will also give an idea of present structural tendencies.

MAKE AND MODEL	Price	H. P.	BODY		MOTOR		COOLING		IGNITION		Lubrication	Clutch	TRANSMISSION		WHEEL		BEARINGS		Weight	TIRES				
			Type	Seats	Cylinders	Bore	Stroke	Radiator	Pump	Magneto			Battery	Type	Speeds	Drive	Base	Track		Frame	Motor	Transmis- sion	Axle	Front	Rear
Reo	\$500	9.0	Runabout	2	1	4 1/2	6	V. tubes	Centrif'l	None	Dry	Splash	Plate	Plan	2	1-chain	78	55	P. steel	2 plain	Plain	Roller	28x3	28x3
Reo	1000	18.0	Touring	5	2	4 1/2	6	V. tubes	Centrif'l	None	Dry	Splash	Plate	Plan	2	1-chain	96	55	P. steel	2 plain	Plain	Roller	32x3 1/2	32x3 1/2
Reo 30-36	1250	25.6	Touring	5	4	4 1/2	4 1/2	V. tubes	Centrif'l	Splitid'f.	Dry	Pump	Disc	Sel.	3	Shaft	108	55	P. steel	3 plain	Ball	Roller	34x3 1/2	34x3 1/2
Standard Six	3000	48.6	Touring	5	6	4 1/2	5		Centrif'l	Remy	Dry	Pump	Cone	Sel.	3	Shaft	124	56	P. steel	Plain	Ball	Roller	36x4	36x4
Selden 35	2000	36.1	Touring	5	4	4 1/2	5	H' comb.	Centrif'l	Extra	Storage	Pump	Cone	Sel.	3	Shaft	116	55	P. steel	3 plain	Roller	Roller	34x3 1/2	34x4
Selden 40	2500	40.0	Touring	7	4	4 1/2	5	H' comb.	Centrif'l	Bosch	Storage	Pump	Cone	Sel.	3	Shaft	122	55	P. steel	3 plain	Roller	Roller	36x4	36x4 1/2
Speedwell 10-D	2500	46.0	Touring	5	4	5	5	Cellular	Centrif'l	Bosch	Storage	Pump	Cone	Sel.	3	Shaft	121	56 1/2	P. steel	3 plain	Roller	Roller	36x4 1/2	36x4 1/2
Stearns 15-30	3200	32.4	Touring	5	4	4 1/2	4 1/2	H' comb.	Centrif'l	Bosch	Storage	Pump	Disc	Sel.	3	Shaft	116	56 1/2	P. steel	3 ball	Ball	Ball	34x4	34x4
Stearns 30-40	4600	46.0	Touring	5	4	4 1/2	5 1/2	H' comb.	Centrif'l	Bosch	Storage	Pump	Disc	Sel.	4	Shaft	120	56 1/2	P. steel	3 ball	Ball	Ball	36x4	36x5
Stevens-Duryea W	2850	36.1	Roadster	3	4	4 1/2	4 1/2		Centrif'l		Storage	4 mech.	Disc	Prog.	3	Shaft	109	56	P. steel	3 plain	Ball	Ball	36x3 1/2	36x4
Stevens-Duryea X	2900	36.1	Touring	7	4	4 1/2	4 1/2		Centrif'l		Storage	4 mech.	Disc	Prog.	3	Shaft	124	56	P. steel	3 plain	Ball	Ball	34x4	34x4
Stevens-Duryea Y	4000	54.1	Touring	2	6	4 1/2	4 1/2		Centrif'l		Storage	6 mech.	Disc	Prog.	3	Shaft	142	56	P. steel	4 plain	Ball	Ball	36x4	36x5
Stoddard-Dayton 10-B	1600	24.0	Touring	5	4	3 1/2	4 1/2	V. tubes	Centrif'l	Splitid'f.	Storage	Cone	Cone	Sel.	3	Shaft	108		P. steel	3 plain	Roller	Roller	32x4	32x4
Stoddard-Dayton 10-A	2100	28.0	Touring	5	4	4 1/2	4 1/2	V. tubes	Centrif'l	Splitid'f.	Storage	Cone	Cone	Sel.	3	Shaft	116		P. steel	3 plain	Roller	Roller	34x4	34x4
Stoddard-Dayton 10-F	2800	36.1	Touring	7	4	4 1/2	4 1/2	V. tubes	Centrif'l	Bosch	Dry	Cone	Cone	Sel.	3	Shaft	128		P. steel	3 plain	Roller	Roller	36x3 1/2	36x3 1/2
Stoddard-Dayton 10-S	3250	44.1	Runabout	2	4	4 1/2	5 1/2	V. tubes	Centrif'l	Bosch	Dry	Cone	Cone	Sel.	3	Shaft	106		P. steel	3 plain	Roller	Roller	34x3 1/2	34x3 1/2
Studebaker-Flanders	750	20.2	Surrey	4	4	3 1/2	3 1/2	V. tubes	Centrif'l	Splitid'f.	Storage	Splash	Cone	Prog.	2	Shaft	100	56 1/2	P. steel	Plain	Ball	Ball	32x3	32x3
Studebaker-E. M. F.	1250	25.6	Touring	5	4	4 1/2	4 1/2	V. tubes	Centrif'l	Splitid'f.	Storage	Splash	Ex band	Sel.	3	Shaft	106	56 1/2	P. steel	3 plain	Ball	Ball	32x3 1/2	32x3 1/2
Studebaker-Garford	4000	36.1	Touring	7	4	4 1/2	4 1/2	V. tubes	Centrif'l	Bosch	None	3 mech.	Cone	Sel.	4	Shaft	117 1/2	56 1/2	P. steel	3 plain	Ball	Ball	36x4	36x4 1/2
White Gasoline	2000	22.5	Touring	5	4	3 1/2	5 1/2	H' comb.	Centrif'l	Bosch	None	Pump	Cone	Sel.	4	Shaft	110	56 1/2	P. steel	2 ball	Ball	Ball	32x4	32x4
White Gasoline	2500	22.5	Touring	5	4	3 1/2	5 1/2	H' comb.	Centrif'l	Bosch	None	Pump	Cone	Sel.	4	Shaft	120	56 1/2	P. steel	2 ball	Ball	Ball	34x4	34x4
Winton 45	3000	48.6	Touring	7	6	4 1/2	5	V. tubes	Centrif'l	Eisem'n.	Storage	Pump	Disc	Sel.	4	Shaft	124		P. steel	4 plain	Ball	Roller		
Winton 60	4250	60.0	Touring	5	6	4 1/2	5	V. tubes	Centrif'l	Eisem'n.	Storage	Pump	Disc	Sel.	4	Shaft	124		P. steel	4 plain	Ball	Roller		
White Steam 0-0	2000	20.0	Touring	5	2	2 1/2	2 1/2							Sel.	2	Shaft	110		P. steel	2 ball			32x4	32x4
White Steam M-M	4000	40.0	Touring	5	2	2 1/2	2 1/2							Sel.	2	Shaft	122		P. steel	2 ball			36x4	36x5

THE AUTOMOBILE

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AUTOMOBILE WEEK AT ATLANTA

Leader of the rejuvenated South, Atlanta this week welcomes the industry which is expected to play no unimportant part in its development. Atlanta recognizes the importance of transportation, for the railroads first brought her prosperity; and she sees that the farm lands on which her prosperity depends will best be served by the more modern agent of transportation, the automobile.

In the modern scheme of development the railroad seems to have exhausted its possibilities. It has created great distributing centers—Atlanta stands as an example; but its scope is limited. It cannot reach every hamlet and farmhouse. The electric interurban lines come nearer to the individual producer, but still not quite close enough. Here lies the field of the automobile.

Each farmhouse can have its road linking it with the railroad station, and its automobile to use that road; and the combination of a good road and a good automobile gives the most economical form of short-haul transportation known. With good roads, every farmhouse is on the railroad.

This form of transportation is the South's keenest need, and its lack the greatest hindrance to further development. The steel rails and the locomotive have done their allotted part; the macadam road and the automobile must end the work.

Atlanta's public-spirited citizens saw this want and with characteristic energy set about supplying it. They

found it necessary to work in two directions: for the country-folk had not realized that they needed automobiles, and the automobile makers had not realized that they needed the country-folk. These two bodies had to be brought together and made to see their mutual dependence.

Here Atlanta spirit came into play. Most cities would have been content with a single show or tour; not Atlanta. The program made out by her enterprising citizens included a show—a National show at that; not one but half a dozen tours, and a race meet on the fastest track in the country. Truly no small undertaking!

How the National show was secured, Clark Howell, the editor of the Atlanta *Constitution*, has related elsewhere. Ninety-nine men out of a hundred would have given up the attempt in despair, but the Atlanta delegation persisted—and won. They obtained the greatest honor that could be given any city by the united automobile manufacturers, the first exhibition of the new models: that honor which formerly had been reserved for the nation's metropolis. It was a fitting recognition of their enterprise.

Meanwhile another group of citizens were busied with the race-track. Here, too, was displayed persistence and faith of the kind which makes for success. First the necessary capital had to be raised. This did not prove as difficult as might have been expected, in view of the amount called for. But the committee found that contractors were reluctant to undertake the construction within the specified time. Persistence won another victory when a reliable firm was found to assume the contract, and when that firm fulfilled its obligation with time to spare. The track, with new records already established on its surface, awaits its opening meet.

So much for the spectacular side. The show was assured, with its splendid decorations, its polished chassis and beautifully finished cars, appealing to the esthetic sense. The races would bring world-famous drivers and speedy machines to rouse the sporting instinct. There remained the familiar, intimate side, the proximity of the dust-stained cars and their goggled drivers, traveling well-known roads and stopping at well-known inns, to wake the personal interest.

For this purpose the tours were instituted. From every point of the compass automobiles were to rendezvous at Atlanta, demonstrating at once their ability and usefulness and the failings of the local roads. Augusta, Savannah, Albany, Fitz-Gerald, Dublin, and Birmingham all send their quotas, and from New York the greatest tour of all takes its way southward. Each will pass through virgin country and will awake many thousands of country dwellers to the advantages of good roads and the automobile.

No labor could have been more unselfish, or wider reaching in its influence for good, than that of Atlanta's citizens; and, like most unselfish efforts, it will redound in no small degree to their own benefit.

Future years, we hope, will find Atlanta the center of hundreds of miles of plantation and farm land, broad hills and valleys snow-flecked with cotton and golden with corn; and each plantation and farm will be linked to its town and its railroad with bands of white macadam. Friends will be neighbors, though ten counties distant, and all will be united in fellowship and prosperity.

GOOD ROADS ACTIVITY AT FEVER HEAT IN THE SOUTH

THE good roads movement in the South is both an old and a new proposition. The desire for good roads has long been felt, and movements looking to their accomplishment have been often started. It is the method that has obtained that deserves the title of "something new."

This method was first adopted by the *Atlanta Journal*, and came in the shape of offers of cash prizes for the best road in various counties in the South. It was this offer, or rather this series of offers, that set nearly every section of the South at work, laboring for the better keep of the highways and the construction of perfect roads.

The *Journal* tour from New York to Atlanta started the real activity in this direction, and credit is due Major John S. Cohen, managing editor of this paper, for the energy that has made the movement a success. When he decided upon his plan of action, there was no time lost. He went out on the roads personally and inspected them. His title of major was well-earned by active service during the Spanish-American war, and while not a man of strong physique, he has endured much hardship in the field. He was called upon to muster his courage and strength when he started on the first "scout tour."

This tour was for the purpose of locating the best possible route from Atlanta to New York. To make the trip did not mean a joy ride by any means. There were creeks and rivers to ford, bad bridges to cross, rough roads to travel, and many hardships to endure. There was one bright spot to these inconveniences, however, one saving grace for the bad things, and that was the universal courtesy, liberality, and enthusiasm of the people along the routes traveled. From the hour that the first car left Atlanta to the hour that its journey was ended in New York, the trip was one continuous ovation from every city, town, and hamlet visited. But while this is true, there was work to do, and real work. Observations had to be taken, maps had to be made, bridges tested, mountains climbed, swollen streams crossed, and a hundred and one inconveniences overcome every day. It was here that the experience and energy of Major Cohen was seen at its best.

The news of the movement and the new plan that was being put into operation spread into the most remote places, far from railroads and telegraph lines. As the car went speeding down a country road one afternoon in North Carolina it passed near a small farmhouse. The owner was seated on his porch reading when he heard a blast from the horn of the machine. He sprang to his feet and waving a paper high above his head exclaimed: "Three cheers for the *Journal* and good roads." He then gave the cheers he had just called for.

After the initial trip from Atlanta to New York, the return journey was made. But the pathfinders did not return as they had come. Instead they made their way back by a different route, and went through many hardships for the second time.

Again the generous entertainment and hearty greetings given by the citizens through whose territory the car passed made up for all the sacrifices. It had been decided before the first trip was made to give prizes to the counties having the best roads by a certain date. After this had been determined upon it became necessary to decide upon the route along which the improvements were to be made. That was really the hardest part of the task. Physical discomforts were as nothing compared to the task of disappointing hundreds of kind friends who were anxious to have their municipalities on the road. But at last the work was finished and the line selected without regard to personal feelings. By doing this the best possible results were obtained.

Then began the work of citizens, boards of trade, county officials, city governments and individuals. Roads that a few days before had been almost impassable were graded, cherted, and rolled as quickly as possible, and then more permanent improvements were begun. Bridges were constructed, drains were

built, and yet the work continued. This, however, was not confined to the Atlanta-to-New York highway. Sections not on this route were not to be outdone by their neighbors, and they, too, got busy.

Movements to improve roads farther South were soon active and in a short time were general. The efforts first began in Georgia, extended to Mississippi and Louisiana. Soon the movement had gained such widespread popularity that the people in many counties decided to vote for bonds for the improvement of their roads. Men who had on previous occasions opposed the issuance of bonds for any purpose caught the good roads fever and worked in their behalf. A recent meeting of the Southern Appalachian Good Roads Congress was addressed by G. Grosvenor Dawe, managing director of the Southern Commercial Congress. In his address Mr. Dawe gave some exceedingly interesting figures. He said:

"The form of good roads enthusiasm, which expresses itself in bond issues, is unmistakable. The total bond issues voted on or discussed prior to voting and still remaining undefeated, from March to September inclusive is \$17,956,000. The voting of bonds shows that the public mind now recognizes the permanency of a good road, and, therefore, posterity's interest in it. The votes by States give interesting light on the whole matter. Bond issues voted, or to be voted on, by Southern States, March to September, inclusive, 1909, follow:

Texas	\$5,000,000
Tennessee	3,022,000
Georgia	2,110,000
Oklahoma	1,750,000
North Carolina	1,640,000
Florida	1,600,000
Virginia	1,196,000
Alabama	850,000
Mississippi	310,000
Louisiana	298,000
West Virginia	180,000
Arkansas .....	.....
Kentucky .....	.....
Maryland .....	.....
South Carolina .....	.....
\$17,956,000	

"The tide of bond-voting was strong all through the spring and early summer, ebbed during August, and has swung on strongly again during September. Bond issues voted or discussed in Southern States were:

	States	Amount
March	5	\$1,615,000
April	7	3,690,000
May	9	3,319,000
June	7	2,063,000
July	7	2,674,000
August	4	1,340,000
September	8	3,255,000
Total		\$17,956,000

"The State of Georgia may be said to be the liveliest 'old' State in the South. It stands third on bond votes, having pledged itself \$2,110,000 since March. But this does not even touch the edge of the activity. There is to be more money spent in the next year by counties not voting for bonds than the \$2,000,000 mentioned above. Does this sound like determination? Stewart County, 600 miles; Pulaski, 300; McDuffie, 200; Crisp, 150; Ben Hill, 100; Dooley, 100. Thirty-six counties in Georgia are going at the road problem and with vigor. The explanations are many—newspaper agitation, the State geologists' work, automobile ownership, and the plain horse-sense of the farmer. They can all be summed up in the old adage, 'in union there is strength.' These elements in any State, when they once pull together, will move the State. 'Glorious old Georgia' is completing more than 10 miles of good roads a day. Over 4,500 convicts are at work in 105 counties of the 149."

So the movement started by John S. Cohen and the *Atlanta Journal* has become almost universal in the South, and is spreading every day.



E. M. Durant, Asa G. Candler, Jr.,
"The Men Who Built the Track"



Robertson in Simplex Negotiating the Last Turn

HOW ATLANTA'S GREAT SPEEDWAY WAS BUILT

By ASA G. CANDLER, JR., PRESIDENT OF THE ATLANTA AUTOMOBILE ASSOCIATION

THE building of the Atlanta Speedway and the organization of the Atlanta Automobile Association was not in any sense the outcome of a long-contemplated plan. Instead it was all thought out in a few minutes' time, and once the start was made, not a moment was lost in completing the work.

One afternoon Edward M. Durant, of Atlanta, and myself were near Hapeville, a small town adjacent to Atlanta. We had made the trip out on business far remote from that of building an automobile track. As we passed a large tract of land the identical idea seemed to occur to both of us at the same time. The idea was spontaneous, one might say, and the very instant we began discussing the question it was settled in our minds that we would start the work at once.

The land we had seen was not all in one parcel, but several scattered pieces, and in order to secure what was needed we had to make a number of trades. This was done, and then work was started on the plant.

In the meantime the Atlanta Automobile Association was organized, and the land taken over by that organization. Officers were selected by the stockholders, and they were kind enough to make me president. Mr. Durant was elected secretary, and right here let me say that he has been a most valuable man in every detail of the great undertaking.

After the association was organized the task of getting the grounds arranged and having the course laid out was placed in the hands of Mr. Durant and myself. We did not want to lose any time in having the work completed and set a time for it to be finished. We decided to have the first meet on November 9, and continue up to and including the 13th of that month. We consulted with a number of contractors and they declined to undertake the job, for we were not ready to begin until July. The idea had occurred to us in June, and after getting the needed land we had no time to spare.

Many experts looked over the situation and declared it was impossible to complete the task in the time we had to give them. They would figure a while, and then with a shake of the head tell us it was not in the power of man to accomplish the under-

taking. Just as it looked as if we would have to take the contract over and do the work personally, we found a firm that was willing to take a chance. It did not take us long to come to terms, and work began almost the day the contract was signed.

We got little encouragement from any one save our stockholders when it came to discussing the time for the opening. Nearly every one declared we had undertaken too big a job for the number of days we had in which to work. We were determined, however, not to break our promise, and soon had a night force working. In order to do this a special system of lights was put in. This was done, and there was no stop except when the weather became so bad there was no chance to go ahead. The men who took our contract were experts. They had the facilities with which to carry out their part of the agreement, and did so.

The plan was not one for the purpose simply of making money. It was intended to advertise Atlanta, to show to the world that the claims made for the city are not idle ones. We wanted the best plant in the country, and I think we have it. But we have just begun. The grounds are to be beautified in every way possible, and we will not stop there either.

The recent try-outs given the course by some of the greatest drivers of automobiles in the world have served to show how near perfection is the course. There was not a complaint, not a suggestion to come from any of the men who drove over the course on Saturday, October 23, but there was praise from all of them.

The Atlanta Automobile Association is composed of leading business and professional men of Atlanta. The association is going to foster automobile racing on a high plane. Everything will be done to advance the sport and to protect it. There is to be no shamming. There is not a dollar of stock in the association owned by manufacturers of automobiles or of kindred enterprises. No make of machine will ever be favored by the association to the injury or inconvenience of another. The association is free from obligations, and its only object is to give the best possible entertainment and to establish itself in the world of sports as one of the great national organizations.



Atlanta Trophy: Height, Six Feet;
Value, \$10,000

ATLANTA AS THE AUTOMOBILE CENTER OF THE SOUTH

ATLANTA GA., Nov. 3—If a man should sit down with an atlas, a pair of dividers, a railway guide, and a determination to locate the exact center of the South he would discover Atlanta. By the "South" is meant that portion of the United States on the torrid side of the Mason and Dixie line and east of the Mississippi River—that portion which includes Virginia, North and South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, Tennessee, and maybe Kentucky (though the claimed of that last-named State to a place in the South is contested now and then owing to the inadvantage of Kentucky in not seceding, back in the terrible '60's).

It is doubtless true that the Georgia capital, the "Gateway to the South," is not the exact geographical center of the Southern States. That honor goes doubtless to some less conspicuous city—Ty-Ty or Rome, Ga., maybe. But measured in terms of railroad miles Atlanta is just exactly that place. It has the honor of being nearer to every city in the South than any other one place. To cover the Southern territory from any one central point you must locate Atlanta.

This fact of central railroad location made Atlanta.

The Georgia capital is not blessed with any peculiar natural advantages. It hasn't the river that has made Memphis and New Orleans, or the ocean that keeps Savannah and Charleston on the map; it has no coal or iron like Birmingham; no rich farming country surrounding it like Nashville; it isn't a winter resort like Augusta, or a summer-and-winter resort like Asheville. It just happens to be "near the middle" in its location.

Of course, it is by no means devoid of natural advantages, not least of its blessings being a wonderful year-round climate, but it would never be the big, bustling town that it is for any reason except its railroads and its location. This location has made Atlanta a city of Southern headquarters. Insurance companies, manufacturers, wholesalers, retailers, and now, at last, automobile manufacturers have chosen the city for their main office in Dixie. And these Southern headquarters have made the city rich and famous.

They have also made Atlanta a city of office buildings. Atlanta has more skyscrapers than any other Southern city, and the building of them has only just begun. It also has wonderful other buildings of various sorts, and an amazing supply of warehouses, including the new L. & N., which, when built, was the largest concrete structure of its kind in the world.

Atlanta is not alone famous for its office buildings and its office population. Fulton County, in which Atlanta is located, produced \$15,000,000 worth of manufactured goods in 1900, and double that amount in 1905. Now the yearly amount is \$40,000,000, and constantly growing.

Of course, the fact that Atlanta is the capital and largest city of a State that produces \$100,000,000 worth of cotton a year has something to do with its growth, as has also the fact that it is practically the center of a group of States that grow \$300,000,000 worth of cotton a year and turn out cotton goods worth \$150,000,000.

All of which being true, is it any wonder that Atlanta has become the center of the Southern automobile business? Probably

not, but even with all these facts staring in the face of any man who looked for them it was only a couple of years ago that Atlanta began to take its proper place in the automobile world.

From the time that the automobile makers broke gently into the South until a couple of years ago, all business was handled directly from the factories, through representatives in the various Southern cities. But the makers found this unsatisfactory as a method, because they were far from the actual scene of the selling battle and because they did not know Southern conditions. As long as the South was consuming few automobiles any selling method was good enough. But when the South woke up to the cars, the makers had to wake up to the South.

The honor of discovering Atlanta belongs to the Maxwell-Briscoe Company. This company had in J. M. Austin a live Atlanta agent, but it had been contented to do business in one small store, with the front part of the building fixed up crudely

as an office and the back part as a garage. Then one day the announcement was made that the Maxwell-Briscoe Southern Company had been formed and that it would have a new place of business. At that point Atlanta began to exist as a Southern automobile headquarters.

The White company was only part of a lap behind. Before the Maxwell-Briscoe company was well in its new place the Cleveland makers shipped E. W. Gans to Atlanta, stationed him at the Piedmont Hotel, and closed a contract for a Southern headquarters. The company secured a handsome fireproof, concrete building, moved in, and immediately set the South ablaze. The success of the Southern branch was instantaneous and phenomenal.

It sold all the cars that were assigned to it, and clamored for more. These were not then forthcoming, which caused disappointment.

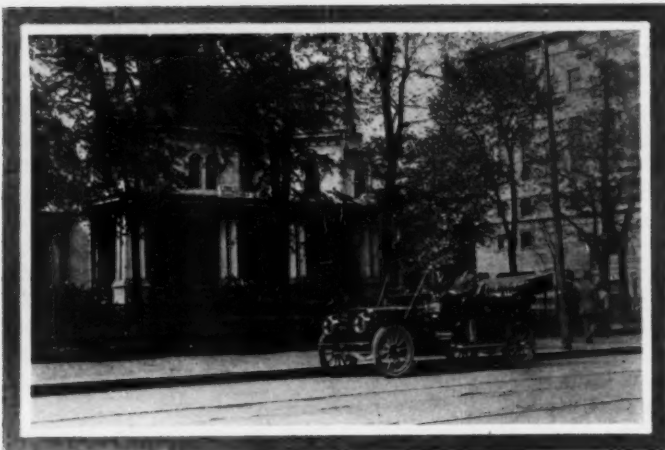
What the White company was doing with high-priced cars the Maxwell-Briscoe company was doing with the lesser-priced machines. Its cars sold faster than the branch could get them, and a year in the South served to intrench the company most firmly. And, incidentally, it served to intrench Atlanta and the South most solidly in the heart and the pocketbook of the company, and only a year after the Maxwell-Briscoe Southern opened in Atlanta it was forced to vacate its original place and move into a new one, over twice as large. And soon after that the White company spread out to occupy more of the building it was in, and the business multiplied in proportion.

The third Southern branch opened was by the Buick company. This concern, though a bit behind the other two in discovering Atlanta went into it strong when it did make the start. The company secured a fine two-story warehouse and a garage on Edgewood Avenue and spacious showrooms on North Pryor Street, which were fixed up in a befitting style.

The other Southern branches are of more recent vintage—most of them, in fact, were opened this year. The Overland Southern Company, for example, has just been organized and did not get possession of its place of business, the old Peachtree Auditorium Garage, until October 15. This company has a broad territory and one of the largest garages in the South. The Olds-Oakland Company is another Southern branch of the vintage of



The Union Railway Station at Atlanta



The Mansion of the Governor of Georgia

1909. Within the month it moved into its Peachtree Street showrooms, and it has not as yet secured its permanent garage, though the building is in process of construction.

The Haynes company practically established a Southern branch when it gave the agency for a very large part of the South to the Corker Auto Company. This concern, like the Olds-Oakland company, has closed for a big garage, and is soon to move into Peachtree Street showrooms.

Another Southern branch secured by Atlanta within the year was that of the Lambert car, which is now handled for all the South by the Southern Auto & Equipment Company.

This represents the Southern branches now established in Atlanta. More are coming. Several companies, some of them of real prominence, are now looking over the local field, and another year will see them established in Atlanta.

Atlanta promises also to lead the way in the manufacture of cars. The White Star car, manufactured by the Atlanta Buggy Company, 80 Means street, is the first Atlanta car. This company began the manufacture of cars last year. The first product of the White Star factory was a high-wheeler. After a year of manufacturing the buggy type the company shifted to the conventional model, and is now getting out a highly creditable car. Another company has been announced which hopes to begin the actual making of cars by next spring.

As the tire center of the South, Atlanta has always been "it." Even before the car makers had discovered the strategic importance of the city, the tire makers were "on." Early in the industry they had begun to establish Southern branches, and now practically all of the tire makers of importance have Southern headquarters in Atlanta.

There are no bounds to the possibilities of Atlanta as the center of the Southern trade. The enterprise in securing the



In Ansley Park—A Fine Residential Section

Southern show helped to make certain Atlanta's position in the automobile world. The building of the big, expensive two-mile track will have its influence. The enterprise of Atlanta in getting up the runs from New York, from Birmingham, and from the Georgia cities will play its little part in focusing the eyes of the automobile world on Atlanta.

While the other Southern cities have been content to take such agencies as came to them, Atlanta has gone out for the big agencies and the Southern branches and has landed them. It has grown with bounds in the automobile world and there is no limit in sight. Atlanta is now the Southern headquarters of the automobile business, and from all appearances ever will be.

TWO THOUSAND PER CENT. INCREASE

MACON, GA., Nov. 1.—One motor car in 1902, five within the ensuing twelve months and 279 in 1909—these figures tell the growth of the motor car business in Macon. For as the sale of machines increased, agencies sprang up and garages came into existence, and the car dealers came to be regarded as one of the city's established business men. Macon eventually will be one of the motor car headquarters of the State. This is attributable to the fact that it is located in almost the geographical center of Georgia, with practically every principal railroad in this part of the country operating freight and passenger service in and out, and all prominent roadways—much the same as "all roads lead to Rome"—leading to it.

There are now six garages. Two of them compare with any in the South, both in size and in point of equipment. These garages are owned by the following: H. K. Burns, the Taxicab Company, Henry J. Lamar, Jr., G. Fred Ellis, J. W. Shinholser, Christian Huhn and John S. Schofield. The garages rent cars, repair them, sell supplies, and are the headquarters for as many agencies. Owing to the rapidly increasing number of cars in the city, each of the garages does a large business. The following agencies are located here:

Automobile and Machinery Co.	Oldsmobile and Oakland
G. Fred Ellis	Ford
Maxwell-Briscoe Co.	Maxwell
J. S. Schofield	White
C. Huhn	Jackson and Reo
J. W. Shinholser	Chalmers-Detroit
E. C. Momand	Studebaker
Willingham & Wheeler	Velle
S. S. Parmelee & Co.	Buick
Henry Jones	Overland
Southern Auto and Supply Co.	Hupmobile

The good roads movement in this State was formally launched in Macon and received its first important impetus here, principally through the efforts of the late Ben. L. Jones. Bibb County roads are considered the best in Georgia, without exception, and as Macon is the county seat, the motorists here have many advantages for pleasant driving. There are numerous straight-away stretches beginning almost within the city limits, chief among them being the Columbus, Houston, Seven Bridges, Outing Club and North Highland roads. The county keeps its entire force of convicts constantly employed on these roadways, improving, building up and creating, and also employs nearly fifty State convicts, all under the same management, for the same purpose. Credit for much of the good roads work in recent years is due to Superintendent E. A. Wimbush. The city of Macon offers little or no restrictions for motorists, and the county puts no obstacle in the way of motorists. A municipal regulation against over eight miles an hour is not enforced.

Conservative estimates place the valuation of the motor cars and garages in Macon at nearly \$800,000. The majority of the cars here are high-priced, while in one garage alone, that of G. Fred Ellis, which is just nearing completion, more than \$100,000 is invested. This garage has a marble finish street frontage of 100 feet and a quarter of an acre store room.

Every agent in Macon is optimistic over the outlook for business. They state that a prosperous cotton season will insure the sale of scores of machines in this particular territory, if not in the city proper, and all of them are ordering extra cars in anticipation of this large trade.

ERA OF MOTOR CAR IN ALABAMA

BIRMINGHAM, ALA., Oct. 30.—The era of the motor car has settled over the entire State of Alabama with irresistible force. The motor car in this State has become a commercial necessity. The boom of the car has been marvelous and unprecedented. That the popularity of the motor is to be permanent is illustrated in the fact that many of the local agencies have booked heavier than ever before for a future season's output.

Along with the motor car fever has come a persistent cry for good roads and more good roads. The good road movement is well launched in Alabama. North Alabama has taken firm hold. South Alabama is not far behind. Senator John H. Bankhead is canvassing the State at the present time in the interest of better roads. Enterprising clubs are making and planning to make long-distance journeys. The countryman is stirred up and will render valuable assistance.

The city of Birmingham up to the present time this year has licensed 543 cars. There are in Birmingham and its suburbs 782 machines. Among this number, practically every make is represented. There are fifteen motor car agencies handling practically every make, and Birmingham is preparing to manufacture cars. The Birmingham Automobile Manufacturing Company, with a capital stock of \$100,000, and with E. F. Euslen, president of the Jefferson County Savings Bank, as president, has been organized. The new company will manufacture a six-cylinder machine. Here follows a list of the agencies and the machines handled by them in Birmingham proper:

Citizens' Automobile Co.—Marion, Overland and Ford.
C. C. Nixon & Co.—Cadillac, Pierce-Arrow and Pope-Hartford.
Southern Garage Co.—Packard and Franklin.
Highland Garage Co.—Marmon.
Drennen & Co.—Bulck, Stevens-Duryea and Peerless.
Birmingham Garage Co.—Studebaker and Oldsmobile.
Loveman, Joseph & Loeb—Chalmers-Detroit, Thomas, Hudson and Stearns.
Cooper Garage Co.—Jackson and Hupmobile.
Maxwell Agency—Maxwell.
N. O. Tyler Co.—Reo and Kissel.
Walter Moore & Co.—Stanley steamer.
Magic City Garage Co.—Mora and Mitchell.
White Garage—White steamer and White gasoline.
Lambert Agency—Lambert.
T. S. Smith & Sons—Premier, American and Moline.

MANY AGENCIES IN THE FIELD IN MEMPHIS

MEMPHIS, TENN., NOV. 1.—From a city practically unknown on the motor car map of the United States to what promises to be the mecca of the southern motor car world, is the rise of Memphis since 1901. It was in this year that the Bluff City was formally introduced to the horseless mode of travel, in the shape of a steam locomobile, and has gradually conceived the idea that the motor car is as much of a necessity as a luxury.

In 1901 Jerome P. Parker & Co., at that time exclusive dealers in bicycles, purchased six high-seated steam locomobile runabouts and after tireless efforts succeeded in disposing of the last one in 1903.

In 1903 other agencies were secured, the car business began to strike its roots and has gradually grown until there are now seventeen motor car dealers in Memphis representing about thirty factories. The present list is as follows:

McDonald Automobile Co.—Studebaker-Garford, Studebaker-Flanders and E-M-F.
Memphis Automobile Co.—Packard, Chalmers-Detroit, Baker electric, Babcock electric.
Jerome P. Parker Co.—Stoddard-Dayton, Overland.
Frank C. Blomberg Co.—White.
Cullen-Butler Auto Co.—Premier, Reo, Grabowsky trucks.
Fal Motor Car Co.—Factory branch.
H. A. White & Co.—Pierce-Arrow, Cadillac.
Bruce-Cubbins Co.—Locomobile, Stevens-Duryea.
Lily Carriage Co.—Peerless, Waverly electric.
Bulck Motor Car Co.—Factory branch.
Rodgers-Oliver Co.—Hupmobile.
Southern Auto Co.—Maxwell.
Knox & Jewell—De Tamble.
W. S. Bruce & Co.—Ford.
Williamson & Hobson—Trucks.
Garages—McDonald Automobile Co., Jerome P. Parker Co., Cullen-Butler Auto Co., Memphis Automobile Co., W. S. Bruce & Co., Rodgers-Oliver Co.

The activity of the city in providing the means of travel has been ably seconded by the county authorities until to-day Shelby county, of which Memphis is the county seat, boasts of more



North Pryor Street, Which Is Atlanta's Automobile Row

than twice the extent of improved highways than any other county in the State. From an appropriation of \$40,000 twelve years ago the annual appropriation for the building and maintenance of free gravel turnpikes has been increased until for the past five years it has aggregated \$100,000 and as a result over 600 miles of free gravel turnpikes entice the traveler.

MANY FINE PIKES AROUND NASHVILLE

NASHVILLE, TENN., NOV. 1.—Nashville can make the boast that one of the first successful motor vehicles in America was made in its entirety in this city by a Nashville boy, G. Preston Dorris, who since has forged to the front and is now at the head of a successful motor car factory in St. Louis. Nashville also can boast that it has kept up with the procession in the motor car world, and prospects are not brighter anywhere in the world than they are right here for a still larger use of the car both for pleasure and for business. No other city in the country, and especially none other in the South, can offer the same advantages to the owner of a car as Nashville.

Rock City is the nickname that long has been given to Nashville, and this name is an explanation of the good roads. Nashville is built on one great solid rock. It is impossible to dig over three or four feet in the ground, except right in the river bottom section, without striking solid rock. A rock strata underlies most of middle Tennessee, but at a greater depth than right here at Nashville. But it is possible anywhere to get all the rock wanted for road-building without having to haul it a great distance. This has made road-building comparatively cheap and good solid pikes will be found for many miles around Nashville in every direction.

Duncan Dorris, next to his brother Preston and Mr. Chester, deserves credit for building up the motor car industry in Nash-



In Front of Georgia's State Capitol at Atlanta

ville. Mr. Dorris opened his shop for motor repair work next to his bicycle shop in 1903. In two years his business had grown to such an extent that he in 1905 erected a big garage of his own just on the edge of the business portion of the city. Although the place he opened is 50 by 150 feet and at that time seemed to be far ahead of all needs, he has already become very badly crowded. This was the first exclusive garage in Nashville. The list has now grown to the following:

Chester Motor Car Co., agents for Studebaker and Mitchell, general public garage and repair work.
Nashville Motor Car Co.—Dorris, Buick and Stanley, general repair work and public garage.
Rock City Auto Co.—Reo, general repair work, garage, supplies.
Tennessee Automobile Co.—Studebaker and E-M-F, repair shop, garage.
Bell Automobile Co.—Repair shop and garage.
Southern States Automobile Co.—Stevens-Duryea.
Howard-Cregor Co.—Chalmers-Detroit and Hudson.
E. E. Houk—White and Hupmobile.
Nashville Auto Livery and Repair Co.—General repair work.
J. S. Roller—Ford and supplies.
Nashville Taxicab Co.—Operating a line of cabs for public hire. It has its own garage and does its own repair work.

GOOD ROADS IN MECKLENBURG COUNTY

CHARLOTTE, N. C., Nov. 1—Mecklenburg County is the premier good roads county in the entire South, and Charlotte, the county seat, is the leading motor car center of the two Carolinas. For a radius of fifty miles, a distance which laps over into South Carolina for forty miles, most all the cars sold are sold through contracts held by Charlotte agents. The city has a population of 45,000.

In the city there are 132 machines in daily use, and this number is being added to every few days. The county is the richest in the State and the spirit among the citizens is one of progressiveness and thrift. It is styled the Queen City of the South and the City of Electric Energy. Within a radius of 100 miles are 425 cotton mills, operating 5,511,543 spindles, 120,000 looms, and representing \$150,000,000 in capital. There are twenty-six miles of electric railway, operating twenty-three cars. Seven banks have a total of \$9,976,000 assets. The four building and loan associations have an authorized capital of \$13,000,000. The city has fifty-three miles of paved and macadam streets.

Hand in hand with this wonderful growth is the motor car industry, which was introduced by Osmond L. Barringer. He bought a Locomobile runabout in 1899. In 1903 Mr. Barringer opened a salesroom and launched the business which was the first in this section and perhaps the first in the State. In a year he had placed six machines, and after that time the people began to buy more rapidly. The market has been growing ever since and to-day there are six concerns in the city selling motor-driven vehicles.

Of the 132 machines in the city twenty-two are used by physicians. This is about 60 per cent. of the physicians in the city.

In July last the local owners organized the Charlotte Automobile Association which now has a membership of eighty-five, or about 64 per cent. of all the owners in the city.

Through this section will be found the best public highways in the South. Mecklenburg County alone has 210 miles of macadam and more under construction. There are 46,850 miles of public roads in the State of North Carolina, about 800 of which are macadamized. The work of road building was begun in Mecklenburg County in 1884.

SCRAPPERS FOR ROADS IN WINSTON-SALEM

WINSTON-SALEM, N. C., Nov. 1—Here we have a hundred cars, and hardly a week passes that the number is not added to. Here we have three garages, each doing a thriving business. Here we have a machinery factory preparing, with material ordered, for the manufacture of motor delivery wagons. And here we have the first car ever brought into North Carolina.

The oldest garage in the city is that of the Winston Automobile Company. This company, organized 2½ years ago, has placed many Maxwell machines in use, and the sale continues.

Next in point of age is The Motor Company, whose garage is

situated on Main Street, next to the Zinzendorf Hotel, which was official headquarters for the night control of October 20 for the good roads tourists over the national highway from New York to Atlanta. This company has sold scores of Buicks and Studebakers. Though The Motor Company was organized as late as May 1, 1909, the business has grown to such an extent that in January the floor space of the garage will be doubled, making the house extend the entire length of a block.

The Southern Motor Car Company, organized May 8, 1909, is the State agency for the Cadillac machine.

HEALTHY CONDITIONS EXIST IN RICHMOND

RICHMOND, VA., Nov. 1—On August 1, 1905, William W. Archer registered the first motor car that had ever been entered on a license book in the State. The entry was made at Richmond police headquarters. As the manner of keeping the registry at that time had not been subjected to a test, the address of Archer does not appear with the issuance of the certificate. The machine which this motorist used was a Knox three-wheel gasoline car, seating four people.

Richmond and Atlanta, perhaps, lead the South in the number of motor cars which pass through the city limits. This has been greatly augmented by the work of the good roads enthusiasts going out from Richmond, Washington and Atlanta to all parts of the States between Virginia and Georgia. From the books of the State Auditor it may be seen that there have been issued already—to October 10—3,321 certificates for the right to use motor cars in the State of Virginia. As the State license fee is only a paltry sum of \$2, one-fourth of which goes to the clerk who issues the certificate, the State already is looking toward a complete revision of the laws governing machines in Virginia, which will more than likely be changed almost in the entirely at the next session of the Legislature, which convenes in January.

The comparative figures in the State Auditor's office show that the year 1909 has given an increase in registration over 1908 of 1,400 machines or nearly as many as half the total registration since the year 1905. It is the beginning of the motor car age in the State and the fever has taken root in every State in the Southeast, to say the least of the Southern situation. The increase of 1908 over 1907 was 700 registrations, or half of that of the present year. The State Auditor estimates that one-half are in Virginia, or something like 1,700 machines.

From the books of the clerk of the chief of police, where city entries are registered without fee, there is shown a total since August 1, 1905, of 3,309 cars. These, also, are estimated to be about one-half owned by Richmond people and the others registered by visitors. The difference in the number registered in the city and State being only 312 machines, it would indicate that the road to Richmond is a Mecca or else that registration has been poorly carried on.

Taking the city registration, it would show that on January 1 of this year there were registered 2,110 motor cars. Going back a year the number was only 758. This is an increase of that year of 441, which, compared with the total to date of 3,309 cars registered, shows the increase to be remarkable.

To-day seven big garages are doing business in Richmond. They represent eight types of manufacture and every known style of these manufacturers. The agents and the machines are as follows:

Virginia Automobile Co.—Ford.
Richmond Supply Co.—Reo.
Foster Motor Car Co.—Franklin and Buick.
Ross & Schulluter—Overland.
B. A. Blenner—White.
Central Garage—Maxwell.
Gordon Motor Co.—Chalmers-Detroit.

In addition to these there are three agencies in Richmond for as many motor cycle companies.

Never in the history of the State has the good roads question assumed such proportions, and there can be no question of the fact that, though the poor farmer is used in stump speeches he is, or will be, the power behind the throne in the motor car.



Good Roads Tourists on Southern Tour Leaving Winchester, Va., on the Road to Staunton

LIKE ROLLING SNOWBALL, ATLANTA TOUR GROWS

NINE STATES have been met and conquered by the sturdy band of automobiles bearing the "Good Roads" banner from New York to Atlanta, and in each successive State the enthusiasm for the cause seems to grow. Each day's trip scored a new triumph. The tourists, in passing through communities where automobiles are seldom seen, spread the gospel of macadam, and in return received their own object lesson in the difference between what roads should be and what they often are.

The worse the roads, it seemed, the more hearty the greeting and the more intense the interest shown through the countryside so afflicted. Villages and cities poured out their people to cheer the tourists. Solitary crossroads, far from farmhouses or other signs of habitation, were marked by groups of farmers with their families, who in many instances had traveled scores of miles and waited many hours to see the cars speed past.

Schools were suspended for the day, and the fences near these little homes of learning were clustered with children, each a prospective advocate of good roads. Villages which have been the most clamorous in their warfare against automobiles have experienced a complete change of heart. All along the route the talk is of good roads and the means by which they may be obtained at the earliest date. As a popular educator the tour finds its crowning success.

Third Day's Run—Gettysburg to Staunton

STAUNTON, VA., Oct. 27—Never was Southern hospitality, famous the world over, more spontaneous or delightful than that which greeted the participants in the New York *Herald-Atlanta Journal* tour to-day. For 180 miles the procession was like the return of a victorious army; indeed, to the tour, victory seems already assured.

Starting from Gettysburg at seven o'clock this morning, they traversed the southern section of Pennsylvania, crossed the nar-

row western neck of Maryland and the northeast corner of West Virginia, dropping then into historic Shenandoah Valley.

It was the longest day's run scheduled for the tour of approximately 1,100 miles. Contestants were forced to drive their cars over roads of all sorts and conditions, and yet but one competing car was penalized for failing to make the day's trip within the schedule time, while another met with an accident which damaged the automobile and probably put it out of the contest, though luckily neither of the two passengers was injured. In addition, penalties were laid upon four contestants by Referee Scarritt for violation of road rules.

Near Middletown, Va., about sixteen miles southeast of Winchester, where the noonday halt was made for luncheon, the Oldsmobile, entered and driven by Frederick Weis, of Brooklyn, crowded close to the edge of the highway in seeking to pass the Craig, a non-contesting car entered by the Ajax-Grieb Rubber Company, which carried supplies of tires. As it came abreast of the latter machine a wheel of Mr. Weis' car struck a big stone flanking a culvert at this point, causing the Oldsmobile to skid violently into collision with the Craig. One of the rear wheels snapped off, sending the car into a ditch fringing the roadway.

The Thomas car, driven by Mrs. De Giers, of New York City, had the misfortune to break a steering knuckle, and as a consequence was forced to lie up for more than three hours while a roadside blacksmith mended the break. It had almost regained its schedule for the day's run, when just outside of this city it suffered three tire punctures. Because of the additional delay the car arrived late and received a penalty of 67 points.

Fourth Day's Run—Staunton to Roanoke

ROANOKE, VA., Oct. 28—Though to-day's route, approximately 93 miles, lay through the "backwoods" districts of the Blue Ridge and formed the most truly rural course yet traversed, village



Quaker Children Enjoying the Passing of the Tourists and Having Their Pictures Taken on the Alco

streets and secluded crossroads were dense with throngs that plied a welcoming bombardment to the good roads campaigners.

Roanoke struck the climax this evening with its roaring welcome. From the clouds of dust hanging over the roadways the cars shot into the streets that had been specially sprinkled for their comfort. The brass band blared its harmonies, while its citizens invited sore throats by the intensity of their chorus.

The day's run lay through historic territory. The tomb of General Robert E. Lee, in the ivy shrouded chapel of Washington and Lee University, in Lexington, was visited by the tourists en route. They were spectators of a special battalion drill by the cadets of the Virginia Military Academy, located in the same city, the institution where "Stonewall" Jackson was a professor of mathematics when he took up arms to fight for his country. They viewed the glories of Natural Bridge, where the noon halt was made for luncheon, and sent their cars climbing along the winding roads that pierce their way through the Blue Ridge Mountains.

For fifty miles out of Staunton, the new national highway, terracing constantly to higher levels, led the way up into the mountain altitudes. The village of Fairfield had arched its main street with a great banner, which voiced the words in big letters:

"Welcome, Tourists—New York to Atlanta."



Virginians' Welcome to the Good Roads Tourists

On the ridges hemming in the roadway, flanked to the left by the towering heights of the Blue Ridge, their forested slopes gay in the colors of autumn and blanketed with a bluish haze, groups had assembled as if in so many grand stands.

All but one of the thirty-five contesting cars rolled in at the finish on schedule time and without a single penalty levied upon them as a result of the day's run.

The car which failed to arrive was the Thomas, entered by Mrs. F. De Giers, of New York City. This contestant had the misfortune yesterday to break a steering knuckle. It had been supposed that the party had given up the contest, but this evening a telegram was received from Lexington, fifty-five miles away, addressed to the official checkers, and saying:

"Don't go to bed until we are checked in. Are enjoying moonlight ride."
MRS. DE GIERS."

Fifth Day's Run—Roanoke to Winston-Salem

WINSTON-SALEM, N. C., Oct. 29—Through the grazing reaches of Virginia, the tourists carried their doctrine into the great tobacco-growing belt of the Carolinas. Mountaineers, buried in their little homes, clustered in the recesses of the hills, threw aside reserve and made the parade of the good roads pilgrims a triumph. Unchecked enthusiasm rang its tumult everywhere along the line. It stamped the countryside's united support to the movement which the tour represents.

Immediately after leaving Roanoke this morning, with the sun beaming from a clear sky, the motoring pilgrims struck eight miles of mountain grades. Hedged in by the forested hills, glowing in their autumn dress, the line of cars dashed through stream after stream, as they swept about the sharp corners and chugged up the slopes.

At Maggody Creek, in Franklin County, Va., twenty-one miles from Roanoke, came the most striking evidence of that State's loyal support of the good roads campaign. Until three weeks ago this stream was bridgeless. It was forded by chance automobiles and wagons, the approaches to the dash through the water being especially tortuous and treacherous with accumulated mud. Within that period, through the efforts of F. W. Clair and H. D. Dillard, members of the County Highway Committee, a modern iron bridge more than one hundred and fifty feet in length had been hastily constructed.

Four of the competing cars failed to arrive here within the period of actual running time allotted to the various classes.

F. D. Hughes, of New York, driving a Chalmers-Detroit,

wired that owing to illness he and his wife would spend the night at Martinsville, Va., where the noonday stop was made for lunch, and would try to rejoin the tourists in Charlotte, N. C., where to-morrow's run will end.

The entrants delayed in reaching this checking station of the fifth day's run, aside from Mr. Hughes, included Mr. and Mrs. F. J. De Giers, of New York City, who have had trouble for two preceding days with their Thomas car owing to the breaking of a steering knuckle on Wednesday last; the Maxwell car, entered by its makers, which is understood to have broken an axle while fording Big Chestnut Creek, with its muddy approaches, back in Virginia, and the little Franklin car, which has been driven by George H. Storck, of Jacksonville, Fla.

A telephone message brought the information that the last-named car had stripped a differential gear.

Sixth Day's Tour—Winston-Salem to Charlotte

CHARLOTTE, N. C., Oct. 30—North Carolina believes in the adage that actions speak louder than words. To-day's route lay, in part, over macadam roads that for excellence ran a close race for supremacy with the modern highways of New Jersey and Massachusetts. Within the last few months county after county has expended tens of thousands of dollars in bettering its roads.

High Point, N. C., centre of the furniture manufacturing industry of the South, and ranking next to Grand Rapids in its output of household and office furniture, flagged the cars and served the tourists, who had breakfasted heartily in Winston-Salem only two hours before, with sandwiches and coffee.

As was figured by a mathematical expert to-night, each tourist had partaken of nine different and distinct meals before coming into contact with the commissary forces of Charlotte at the close of the day's run this evening. The menus varied from roasted 'possum and baked sweet potatoes to the national ham sandwich and its universal associate, steaming coffee.

Charlotte opened wide its arms to receive the pilgrims. Its entire downtown district had been draped with incandescent bulbs that flamed it into a monster "court of honor." There was a reception committee large enough to have cared for an army. Here the weary tourists, who have gone to bed late for a week and risen at daylight to continue the spreading of their gospel, prepared to find rest over Sunday.

Of the six cars which have practically dropped out of the contest for the tour's prizes two of the entrants have flashed word that they will continue to run until the Atlanta goal is reached.

Joseph D. Boyd, driver of the Maxwell, entered by its manu-



Pacemaker Sees Some Southern Joy Riders Ahead

facturers, was the author of a wire from Martinsville that he would try to rejoin the column before its departure from this city on Monday morning. Back at Stoneville, near the North Carolina line, George H. Storck has the village blacksmith laboring with the fractured differential of his Franklin car, and a telegram from him affirmed that he would continue to the Atlanta checking station.

A leaking gasoline tank on the Selden, entered by Evelyn Harris, of Atlanta, caused a lively fire to-night which nearly put several of the contestants out of the running. A cigarette-smoking pedestrian, as usual, started the trouble. However, the blazing car was quickly pushed away from its neighbors. It is hoped that the Selden can be put in condition to-morrow. Everyone is rejoicing at the prospect of a day of rest.

Seventh Day's Tour—Charlotte to Greenville

GREENVILLE, S. C., Nov. 1—This city is a growing center of cotton manufacturing, in the very heart of the industrial region of the "New South." The country roads are flanked by illimitable fields of cotton, where all hands are busy—or were, till the tour came by—gathering the snowy bolls. Villages were marked by humming cotton gins, and long buildings of new red brick in which the whirring of many spindles told its story of development. Electric power, gained from waterfalls in the distant hills, is in universal use; the fields are crossed by rows of steel towers bearing the high-tension cables.



Crowds, Mostly Women, that Lined the Roadside Cheering Thomas Car at a Hilltop near Shepherdstown, Maryland



Entered by the Chamber of Commerce of Roanoke, Va.



Winston-Salem's Board of Trade Seeks Population

The ferry over the Catawba River, 11 miles out of Charlotte, was a new experience to many of the tourists. The single barge was linked to a long cable that crossed the stream, and was propelled partly by the force of the current and partly by long poles wielded by the negro crew. Each trip took two cars across, and occupied five minutes, so two hours elapsed before the forty-four had been transferred. Owing to this delay, the cars were not formally checked out for the day until the river had been crossed.

King's Mountain, where Revolutionary history was made, furnished an inspiring example of the practical results of the good roads movement. Within the last five months a stretch of macadam has been built, in many places blasted through the solid rock, with many bridges reducing grades and crossing streams.

The noon stop was at Gaffney, S. C., where the tourists lunched on tons of barbecued 'possum and young pig. Spartanburg, too, had tables set in its public square, with piles of sandwiches and gallons of steaming coffee. In the Hotel Otteray, at Charlotte, there was a public reception, and Mayor John B. Marshall voiced the city's welcome.

Eighth Day's Tour—Greenville to Commerce

COMMERCE, GA., Nov. 2—This city welcomed the tourists this evening with a demonstration unsurpassed anywhere on the route. In the main street, a squad of 'possums peered down on the crowds from a persimmon tree walled in with bales of cotton. Confederate veterans armed with shotguns fired a volley as each car appeared, and the mill whistles were tied open for

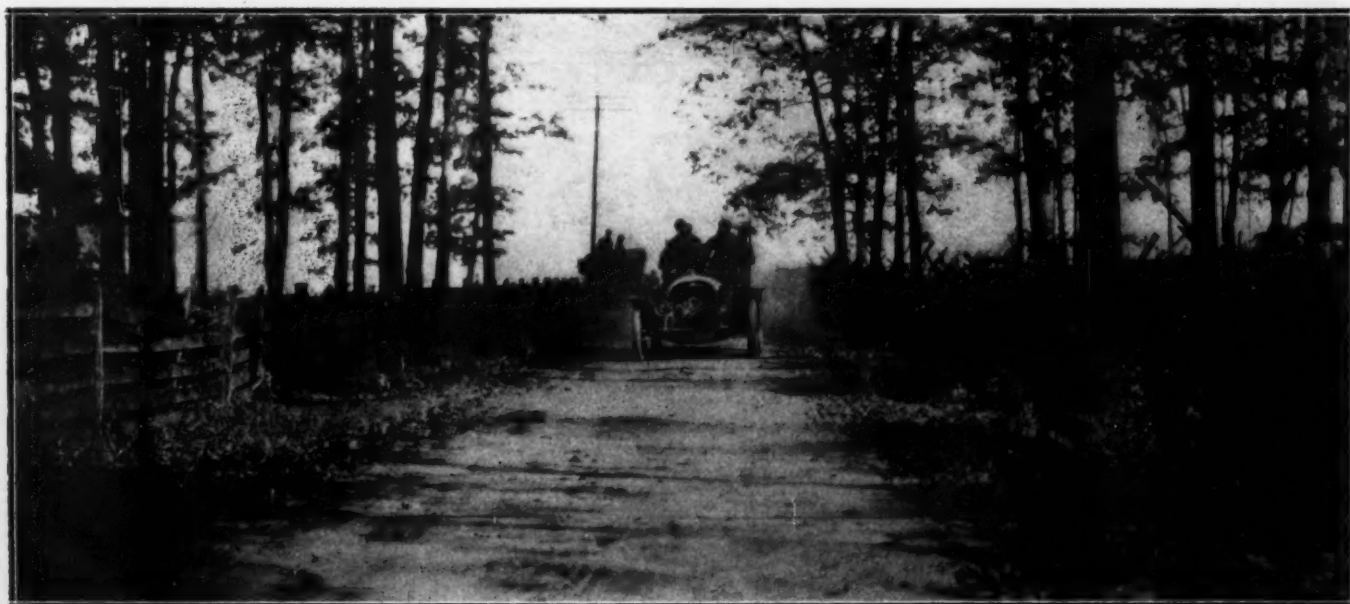
hours. At an open-air mass meeting, John N. Holder, speaker of the Georgian House of Representatives, made the official address.

To-day's run of 110 miles brought several contestants to grief, and the number of perfect scores has fallen to twenty-six.

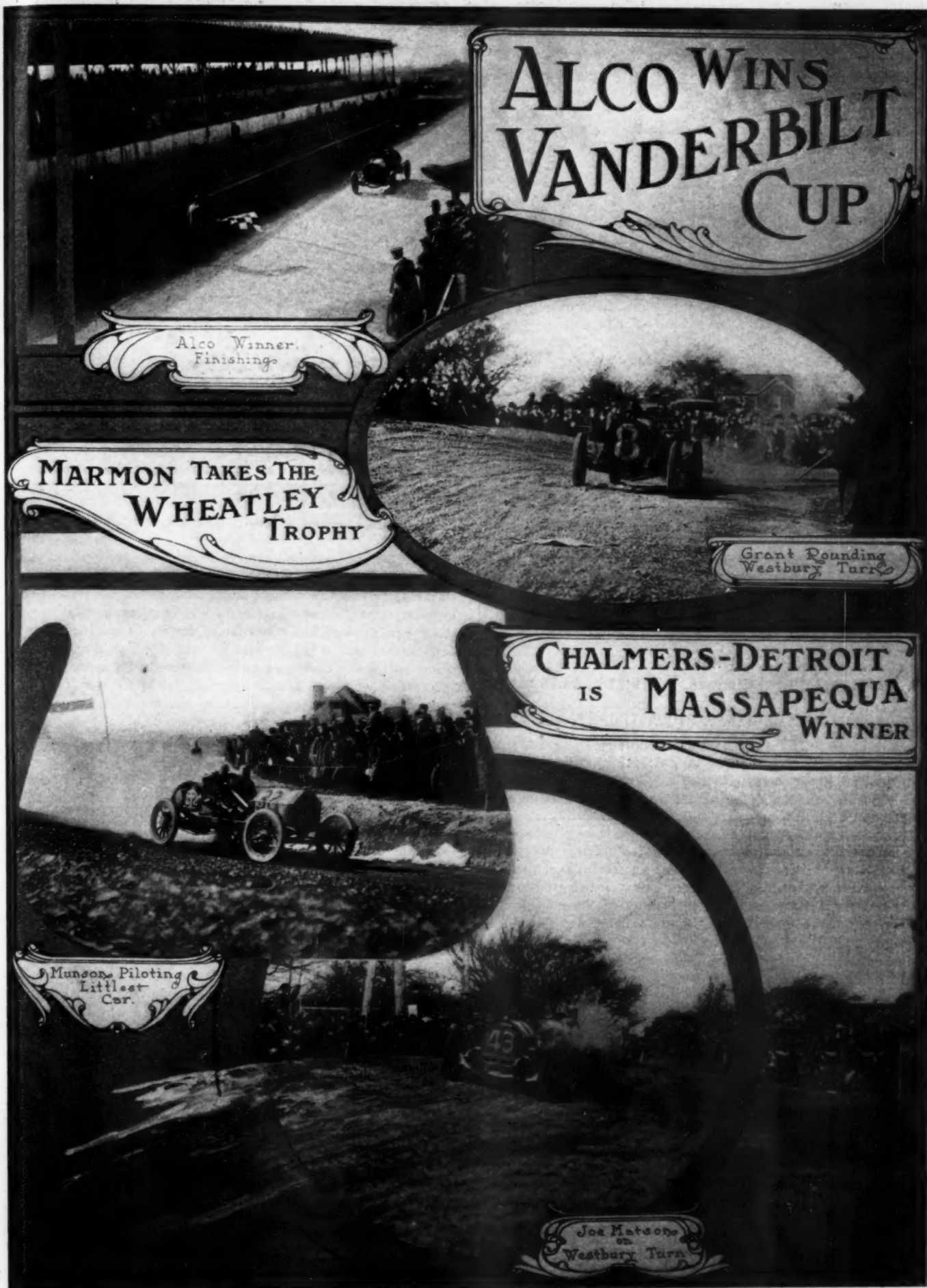
Twelve miles out of Greenville the Jackson, driven by Jacques Futrelle, sustained a bent axle. The roadside blacksmith overcame this trouble after some delay, but near Anderson, S. C., in trying to avoid a farmer's wagon, Mr. Futrelle ditched the car. The Maxwell, which became a non-contestant several days ago, attempted to act as Good Samaritan, but broke a gear-shaft in the effort. Both machines are expected to be in line for the start to-morrow.

The White Star, Atlanta's pride, twisted its crankshaft, and was towed in by Mrs. Cuneo and her Ranier. W. A. Kelly's Knox broke a throttle connection, and came in late with a penalty of 148 points. The Winston-Salem Studebaker lost a rear wheel near Lavonia, S. C., but was repaired and got in with only 27 points penalty chalked up against it.

To-morrow's charge on Atlanta begins at seven o'clock. The tourists are tired but happy, for everywhere they have seen results of their good roads gospel, and the promise of even greater advances in the months immediately to come. More than a thousand miles have been covered, and the goal is but 81 miles distant. A thousand cars are expected to form the escort into the Gate City from Decatur; but the Atlantans will have a hard time to beat the records for hospitality which have been made already along the route.



White Car After Leaving Berryville on the Main Highway Leading to Winchester, Virginia



ALCO WINS
VANDERBILT
CUP

Alco Winner
Finishing

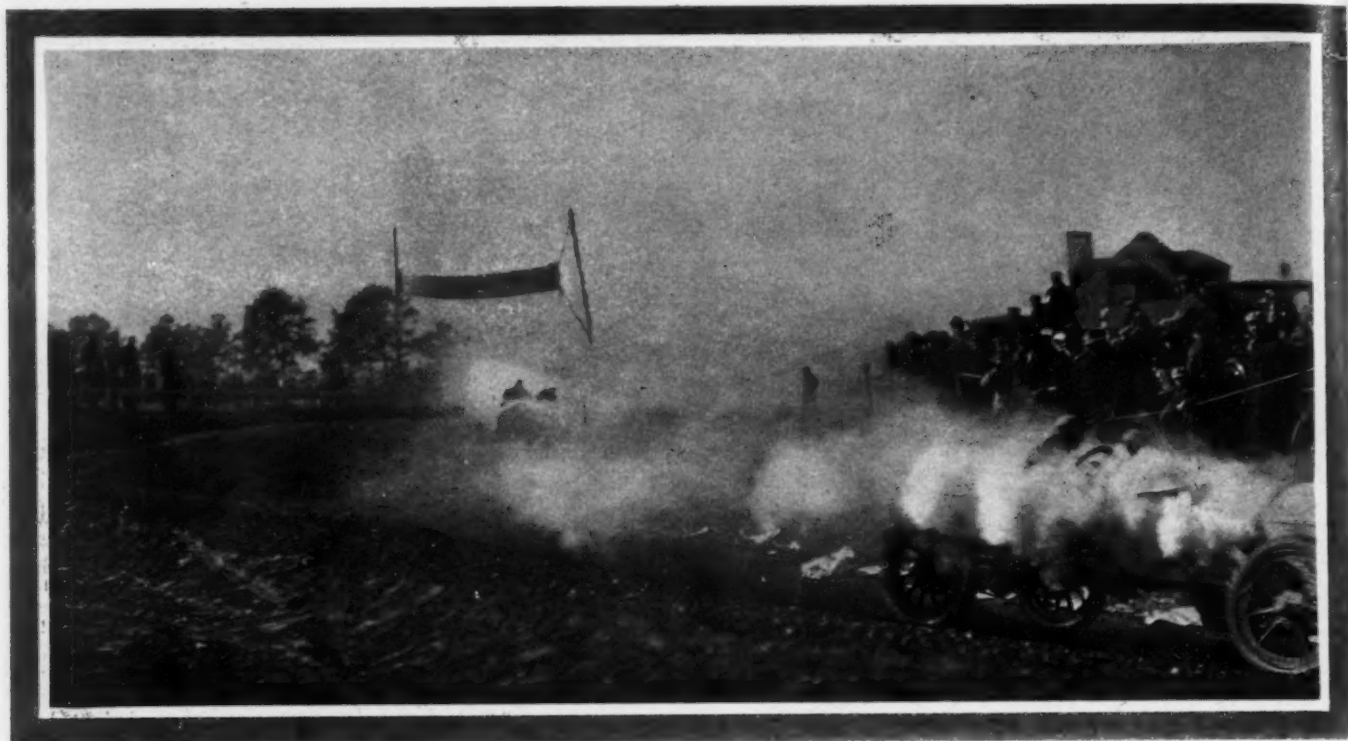
MARMON TAKES THE
WHEATLEY
TROPHY

Grant Rounding
Westbury Turn

CHALMERS-DETROIT
IS
MASSAPEQUA
WINNER

Munson Piloting
Littlest
Car

Joe Matscho
on
Westbury Turn



Grant's Six-Cylinder Alco Overhauling Knipper's Chalmers-Detroit "40" on Westbury Turn.

RESULT OF THE VANDERBILT

1. ALCO,	Grant,	4:25:42	62.77 m.p.h.
2. FIAT,	Parker,	4:30:58 ³	61.55 m.p.h.

FINISH OF WHEATLEY TROPHY

1. MARMON,	Harroun,	3:10:21 ²	59.76 m.p.h.,
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FINISH OF MASSAPEQUA TROPHY

1. CHALMERS-DETROIT,	Matson	2:09:52 ²	58.4 m.p.h.
2. MAXWELL,	Doorley,	2:28:28 ⁴	51.1 m.p.h.
3. MAXWELL,	See,	2:30:24	50.4 m.p.h.
4. HUDSON,	Ainslee,	2:31:47 ²	50.0 m.p.h.

SIX consistent cylinders in an Alco car intelligently driven by Harry F. Grant survived most successfully in the fifth competition for the Vanderbilt cup. Survived is the correct word to use in connection with the telling of the name of the winner, for the classic event, with its usual Long Island setting, never before had a course which so severely tried the enduring qualities of the participants. Shortening the circuit by more than half that of previous years, reduced the county roads mileage but retained the entire length of completed parkway, which has a surface that exacts strenuous toll as the price of racing speed. And on Saturday last the 278.08 miles contained over twice as much as was included in the 1908 course.

Even most of the wisecracks overlooked the level-headed Grant in the reckoning, losing sight of the fact that he had Lowell's big prize as good as won when on the concluding lap the breaking of a chain robbed him of victory and caused the stellar honors to go to Robertson. Missing the Fairmount Park race because of an eleventh-hour misfortune almost as exasperating as the happening at Lowell, may have had much to do with placing the Grant-Alco combination in the possible, but not in the probable column. Robertson had added another to his long list at Philadelphia, and, though the winner of last year's Vanderbilt, the sturdy George didn't consider the inducements sufficient to bring him to the starting-line this time. Hence, the form-pickers had slight call to compare the two in

predicting a winner, and Grant's work was not appreciated.

While it is true that the 1909 Vanderbilt field rated as the least brilliant in its history in the matter of known drivers, it is apparent that the caliber of the cars, remembering their stock chassis basis, excelled in all-around enduring qualities despite the meager number of finishers which overcame the punishing effects of the parkway passages. To appreciate how severe this was, one had to learn of, or, better still, be a witness of what abuse came to the cars during the practice period.

Grant sized up the situation like a general, for while some of his opponents were beating the life out of their cars, he pursued the even tenor of his way, confident that the seekers of fast lap honors would eliminate themselves before the 22 circuits had been completed. Grant's final circuit was his fastest, it being at an average of 71.9 miles an hour. For the entire race, his speed was at the rate of 62.77 miles per hour, slower than the 64.38 of Robertson in 1908 over a better course.

Strang was a "down-and-outer" in two laps, his Fiat suffering from a broken radiator. Mitchell's Simplex disappeared in the third round with a broken crankshaft. Hearne was the next to become a non-combatant, the second Fiat cracking a cylinder and breaking a connecting rod. Chevrolet overtaxed the Buick with the fastest lap of the race, cracked a cylinder, and then became an onlooker in the fifth round. And so the rivals retired, one after another, until only two finishers remained with two others up and doing.

Grant had followed his own ideas, heedless of the others, and gradually had worked his way to the leadership and the winning of a noted cup. Parker, a driver who is of a promising sort, figured as the runner-up in the remaining of the three Fiats, and, owing to a confusion among the officials, the announcement had been made that he was in the lead. Amateur Wishart, with a three-year-old Mercedes, and Elmer Knox, with the quite notable two-cycle Atlas, were navigating the circuit when Referee Vanderbilt called off the race.

Preceding this action there had been a flurry of excitement when a protest emanated from the Alco pit that its car had not been given credit for all of its laps, one being short in its score. Arthur Jervis, pioneer of cycle races galore and a logical graduate into automobiling, had not taken any chances with so-called official score-taking, and when he surprisedly became

aware that the car in which he was interested ran second instead of first in the minds of timers and scorers, his aggressive objections quickly culminated in an admission that the official score was in error. Starter Wagner just had time to rush for the check-block flag and then wave it in the face of the finishing Alco. Naturally there was a demur from the Fiat camp, where the delusion had been cherished that Parker was on his winning round, but the evidence adduced left no doubt as to the right of the Alco to the place; and so the referee ruled.

As the result showed, the distinction between the Vanderbilt cars into classes 1 and 2, according to A. A. A. rules, was needless. Of the cars which belonged properly in class 2 (301 to 450 cubic inches piston displacement), none finished, although No. 7 Chalmers completed 19 laps and No. 5 Atlas was still running when the race was stopped. For this reason, there was no award in this class, the special Donor's trophy being withheld.

What little interest there was in the race for the Wheatley Trophy, soon died a natural death. Beginning with the very first lap, Harroun driving Marmon No. 32 took the lead and held it through to the finish, being the only one to conclude the whole fifteen circuits of the track. This runaway match was profitable for the driver, since in this race the prize was increased by a purse of \$1,000. Some idea of the "cinch" which Harroun had may be gleaned from the statement that a lead of 7 mins. at 50 miles had been doubled at 100, and increased to 16 mins. at the 150 mark, which was the last distance covered by his nearest competitor. The time while not wonderful, would have put this car in fourth position, had it been in the big race.

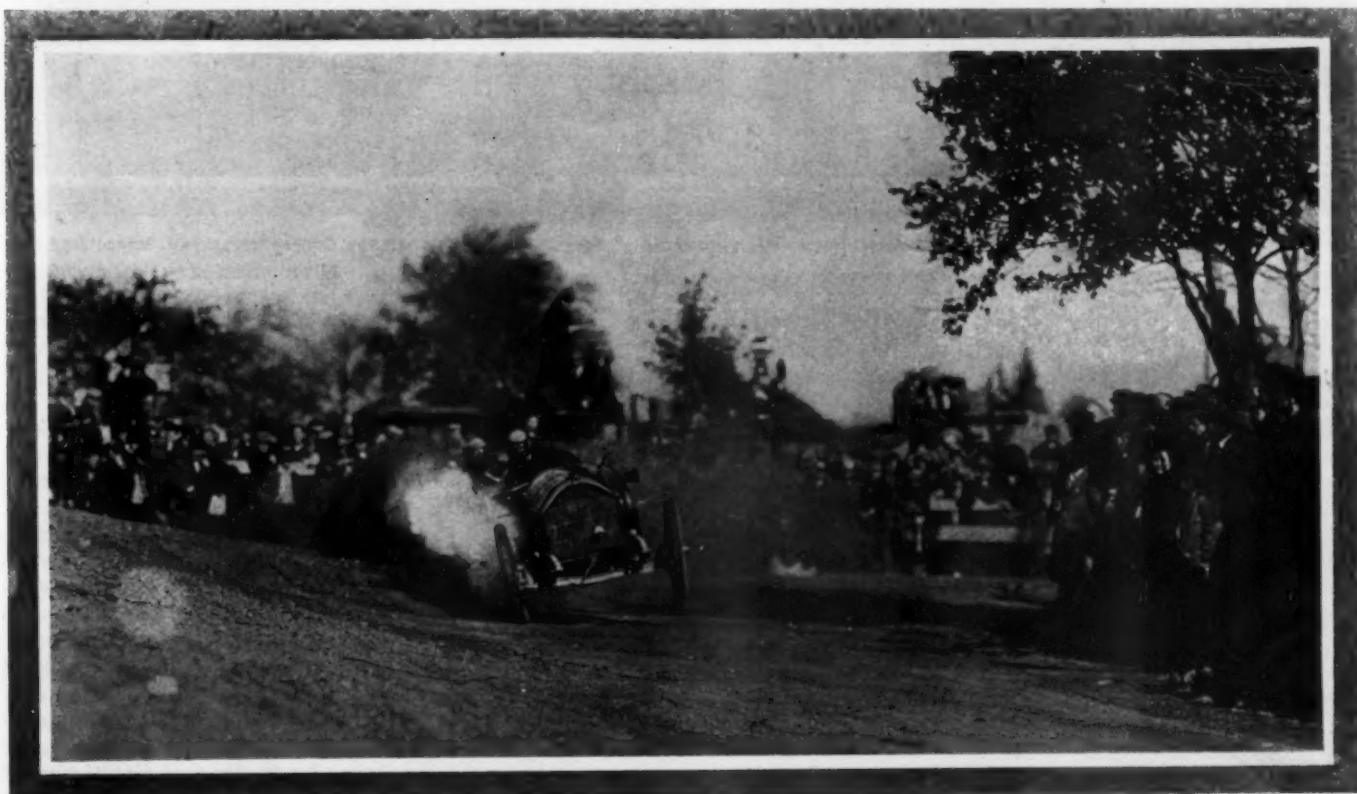
From the point of real interest, the little car race supplied what was wanted, for two-thirds of the starters fought it out until the checkered flag stopped them. The Chalmers team, with a substitute driver on one car, early assumed a commanding lead, and ran one, two for all laps from the third to the ninth, Costello heading the list in the first previous to his disappearance, and the little Hudson, the midget of the race, edging into second place on the second and third. Unfortunately, "Buster" Brown fell by the wayside in the tenth, and the two Maxwells beat out the other Detroit car. Like the winner in

the Wheatley, this winner would have been placed in the big race.

Keeping a concise and prompt record of a score of cars on a twelve-mile circuit is a bit more difficult than doing the same thing on a course twice as large. Both officials and spectators became painfully awake to this fact, for Peter Prunty had a less number of announcements to make than at any previous Vanderbilt event. Lack of knowledge of what was taking place undoubtedly had much to do with loss of interest and the departure of not a few before the conclusion. No sun found its way into the wind-swept grandstand, which did not hold its customary crowd, and no music helped to enliven the occasion.

As a matter of fact there was an evident air of economy in the air which indicated that the affair was being conducted upon business principles solely, a policy which frequently is detrimental in sports when carried to an extreme. The crowd was New Yorkish in both quality and quantity, and Society with a capital "S" that graced the occasion came mostly from the Long Island colony. Sir Thomas Lipton was a pleasing figure; John D. Rockefeller, though said to be present, escaped the camera brigade and pressmen generally; and Jack Johnson, colored holder of fistic laurels, aroused antagonism by his obstreperous presence. George Robertson watched proceedings from the pits in front of the grandstand, though few recognized the 1908 winner. Robert Lee Morrell, chairman of the 1905 Cup race, was present, but Jefferson deMont Thompson, the 1906 and '08 chairman, was an absentee, as were many other noted autoists from other cities who have seen the event in previous and more national years. Present President Gary and ex-presidents Morris and Hoyt, of the A. C. A., all whom are members of the Motor Cups Holding Company, were on hand.

President L. R. Speare, of the A. A. A., the racing board of which has hitherto constituted the nucleus of the cup commission, attended in company with President J. T. Coughlin, of the Worcester Automobile Club, and W. E. Metzger, of the Manufacturers' Contest Association. S. B. Stevens, of the A. A. A. Contest Board; F. H. Elliott, secretary of the A. A. A.; R. Lincoln Lippitt, of the Rhode Island Automobile Club, were among the other few automobile personages of note.



Knipper in His Chalmers-Detroit Sensationally Rounding the Curve at Old Westbury Turn

THE DETAILED STORY OF THE VANDERBILT CUP

LAP 1—Of the 15 cars that started in the Long Island Classic, a 6-year-old Mercedes, driven by a 20-year-old amateur, Spencer E. Wishart, of Greenwich, Conn., was in first position at the completion of the circuit. Chevrolet, in a Buick, was but 11 seconds behind him, with 20 seconds separating him from Seymour in the Isotta, who was third. Knipper in Chalmers No. 7 followed six seconds later, and the balance of the field finished the circuit in the following order: National No. 10 (Aitken), Apperson (Harding), Chalmers No. 9 (Lorimer), National No. 11 (Merz), Marmon (Stillman), Simplex (Mitchell), Alco (Grant), Atlas (Knox), Fiat No. 14 (Parker), Fiat No. 4

lap—9:56³ for the circuit—and looked a sure winner if his speed kept up. Wishart, Seymour and Knipper kept up the chase in their respective positions, and Aitken advanced his National from seventh to fifth position, nipping Lorimer at the tape. Harding dropped to seventh place, and Grant advanced from ninth to eighth position. Merz and Stillman followed, and Parker got his Fiat into eleventh place, the Atlas and Hearne's Fiat following.

Lap 5—Three cars went out of the race on this lap, Chevrolet's Buick, which was leading; Aitken's National, and Hearne's Fiat. The first mentioned broke a cylinder near Meadowbrook,



Along the Finishing Stretch Cars Were Not as Numerous as in Former Years, Though the Course Was Well Protected

Hearne), Fiat No. 1 (Strang). Strang met with hard luck, a stone crashing into his radiator and damaging it beyond repair.

Lap 2—Chevrolet forged to the front in this lap, and second honors were divided between Wishart and Knipper, whose times were tied; fourth position was taken by Seymour's Isotta, and Mitchell forced his Simplex into fifth place from tenth position in the preceding lap, making the best time for the lap—10:47. Lorimer maintained seventh position with Chalmers No. 9, and Aitken and Merz in their Nationals followed. Grant advanced his Alco one position in this lap, and was followed by Stillman's Marmon. The balance of the field was unchanged. Strang made an effort to get his broken radiator repaired and again started in the race, but the effort was futile.

Lap 3—Chevrolet, Wishart and Seymour finished the lap in one, two, three order, and Knipper dropped to fourth position. Lorimer advanced from seventh to fifth position, Harding's Apperson staying sixth. The order of position of the rest of the cars was unchanged except that they were advanced a notch, the Simplex going out of the race on this round with a broken crankshaft. Hearne had considerable trouble with a broken crankcase and was at the repair pit most of the round.

Lap 4—Chevrolet made the fastest time of the race in this

the National cast a wheel near the same town, and Hearne's Fiat went to quarters with its broken crankcase. Wishart's Mercedes led at the lap's conclusion, Isotta, Knipper's and Lorimer's Chalmers, Apperson, National No. 11, Alco, Marmon, Parker's Fiat and Atlas following.

Lap 6—Seymour's Isotta, that was in second position, broke a part of the front axle and was withdrawn. Wishart's Mercedes again led, and the balance of the field was advanced a position without relative changes by the Isotta's withdrawal.

Lap 7—Wishart's Mercedes had trouble with a pressure pipe which broke, and lost its lead, dropping to fifth position. Knipper and Lorimer advanced their Chalmers to first and second positions, and Harding's Apperson was third, with Merz's National fourth. Grant's Alco still held sixth place, and as the Marmon went out with a cracked cylinder, Parker's Fiat and the Atlas advanced one point each in position.

Lap 8—There was no change in this lap in the positions of the first four contestants. Parker secured fifth position for his Fiat by making a bit faster time for the lap than Grant, who still clung to sixth place. Continued repairs on the Mercedes placed Wishart at the foot of the column with Atlas preceding him.

Lap 9—In this lap the only change was a shift in position for

the Alco, which jumped into fifth place due to Grant's steady and consistent driving.

Lap 10—This round saw the first six cars unchanged in position. The Atlas had some trouble and Mercedes regained seventh place.

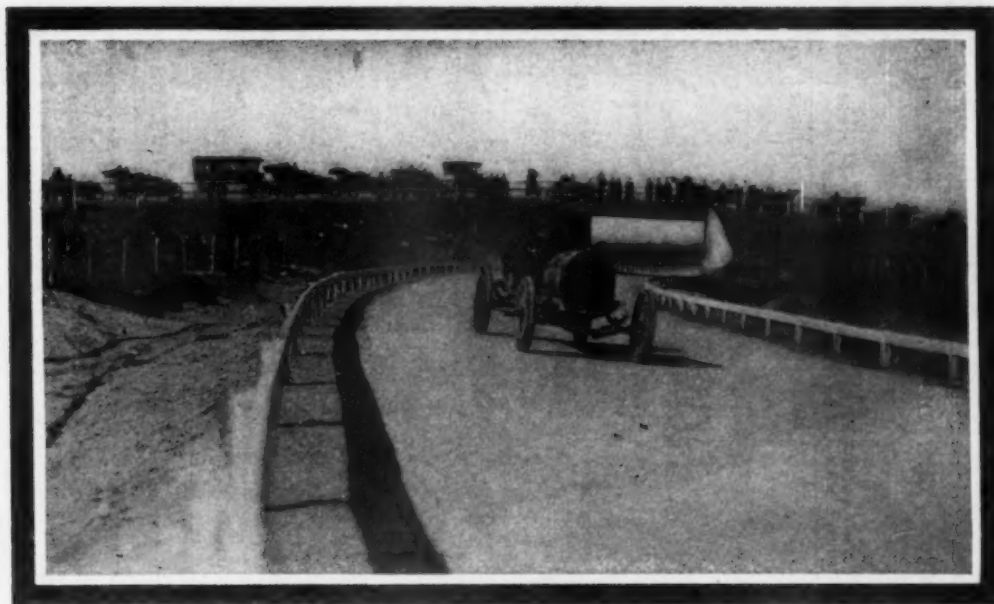
Lap 11—The official scorers evidently failed to see the Alco in this lap and did not credit Grant with it when he crossed the tape. He was unquestionably in fourth position according to the timers' computations, and everybody but the scorers seemed to recognize the fact. (As the scorers' error was corrected by the officials at the conclusion of the race, he is credited in the laps that follow with his correct position). Harding's Apperson went out on this lap with a broken steering knuckle near Massapequa Lodge. The rest of the relative positions were unchanged.

Lap 12—Lorimer gained the lead in this lap while Knipper changed a tire at the pit. Grant advanced his Alco to third position, putting Merz back into fourth place.

Lap 13—This was an unlucky lap for Lorimer. He broke a cylinder and was out of the running. Merz withdrew his National in this lap and the field was narrowed down to five competitors, which were lined up at the lap's conclusion as follows: Knipper's Chalmers, Grant's Alco and Parker's Fiat, closely bunched for first, second and third, and Wishart's Mercedes and Knox's Atlas trailing.

Laps 14 to 19 (inclusive)—Knipper's Chalmers maintained its lead during all these laps, closely followed by Grant's Alco and Parker's Fiat. In the 14th lap the Fiat gained a slight advantage over the Alco, but lost it in the 15th. After that the positions were unchanged. The Mercedes and Atlas were kept going.

Laps 20 to 22 (inclusive)—In the 20th round Knipper had trouble with the lubrication of his car. There was a stoppage of oil and one of the connecting rod bearings heated up. He could not get under way again in time to finish the race. The Alco advanced into first position and maintained the lead till the finish, with Fiat a good second, and Mercedes and Atlas still running when the race was called.



Knipper Handled the Chalmers-Detroit With Consistent Skill, Taking Turns Spectacularly



Two-Cycle Atlas Attracted an Unusual Amount of Attention



Merz and the National Which Once Looked Dangerous

TABULATED STORY OF THE RACE LAP BY LAP, VANDERBILT CUP RACE, MOTOR PARKWAY, LONG ISLAND, OCT. 30, 1909. DISTANCE 22 LAPS, 278.08 MILES

No.	Car and Driver	1 Miles	2 Miles	3 Miles	4 Miles	5 Miles	6 Miles	7 Miles	8 Miles	9 Miles	10 Miles	11 Miles	12 Miles	13 Miles	14 Miles	15 Miles	16 Miles	17 Miles	18 Miles	19 Miles	20 Miles	21 Miles	22 Miles	M.P.H.
8	Alco. Harry F. Grant, F. W. Lee	13:18	24:50	36:10	47:18	62:03	73:23	86:16	103:29	114:31	125:27	*	147:25	158:26	175:26	186:29	197:22	208:37	222:37	233:26	244:10	255:09	265:42	62.77
14	Fiat. E. H. Parker Tony Scuderi	18:43	31:03	43:08	55:07	67:12	78:59	90:51	102:42	114:38	126:39	138:43	150:41	162:41	174:46	186:56	199:07	211:18	223:21	235:18	247:12	259:07	270:58 ^a	61.55
7	Chalmers-Detroit. William Knipper Robert Muller	11:36	22:33	34:23	45:56	57:20	68:42	79:55	91:13	102:32	113:52	125:21	140:14	151:37	163:18	174:55	188:33	201:26	213:38	230:43	247:12	259:07	270:58 ^a	61.55
16	Mercedes. S. E. Wishart Robert Gibson	11:10	22:33	33:45	44:55	56:07	67:23	78:59	90:51	102:42	114:38	126:39	138:43	150:41	162:41	174:46	186:56	199:07	211:18	223:21	235:18	247:12	259:07	270:58 ^a
5	Atlas. Elmer Knox A. F. Duffault	13:34	29:57	42:43	55:46	69:03	81:45	94:29	108:55	121:47	135:48	149:54	164:01	178:08	192:15	206:22	220:29	234:36	248:43	262:50	276:57	290:64	304:71	318:78
9	Chalmers-Detroit. L. B. Lorimer W. R. Burns	12:01	23:37	35:07	46:38	58:02	69:17	80:30	91:49	103:15	114:36	125:49	137:07 ^a	148:32 ^a	159:57 ^a	171:22 ^a	182:47 ^a	194:12 ^a	205:37 ^a	217:02 ^a	228:27 ^a	239:52 ^a	251:17 ^a	262:42 ^a
11	National. Charles C. Merz John Herr	12:07	24:06	36:01	48:04	60:06	72:19	84:30	96:45	109:14	121:19	133:24	145:29	157:34	169:39	181:44	193:49	205:54	217:59	229:64	241:69	253:74	265:79	277:84
6	Apperson. Hugh N. Harding F. W. Clifton	11:53	23:34	35:14	46:51	58:24	69:56	81:29	92:56	104:24	115:52	127:20	138:48	150:16	161:44	173:12	184:40	196:08	207:36	219:04	230:32	242:00	253:28	264:56
12	Marmon. Harry Stillman Joe Dawson	12:11	24:58	38:00	50:48	63:34	76:22	89:09	101:97	114:84	127:72	140:59	153:47	166:34	179:22	192:09	204:97	217:84	230:72	243:59	256:47	269:34	282:22	295:09
17	Isotta. Joe Seymour Ed. Grabow	11:30	22:49	33:46	45:16	56:42	68:12	79:42	91:12	102:42	114:12	125:42	137:12	148:42	160:12	171:42	183:12	194:42	206:12	217:42	229:12	240:42	252:12	263:42
15	Buick. Louis Chevrolet Joe Nelson	11:30	22:49	33:46	45:16	56:42	68:12	79:42	91:12	102:42	114:12	125:42	137:12	148:42	160:12	171:42	183:12	194:42	206:12	217:42	229:12	240:42	252:12	263:42
10	National. John D. Aitken H. S. Wilcox	11:46	23:59	35:46	46:37 ^a	57:24	68:15	79:06	90:00	100:51	111:42	122:33	133:24	144:15	155:06	165:57	176:48	187:39	198:30	209:21	220:12	231:03	241:94	252:85
4	Fiat. E. A. Hearne Jack Tower	20:25	34:09	47:53	61:37	75:21	89:05	102:49	116:33	130:17	144:01	157:45	171:29	185:13	198:57	212:41	226:25	240:09	253:53	267:37	281:21	295:05	308:89	322:73
3	Simplex. Leland A. Mitchell W. F. Casey	12:31	23:18 ^a	34:05	44:52	55:39	66:26	77:13	88:00	98:87	109:74	120:61	131:48	142:35	153:22	164:09	174:96	185:83	196:70	207:57	218:44	229:31	240:18	251:05
1	Fiat. Louis Strang Joe Pazzo	106:47 ^a **	206:47 ^a **	306:47 ^a **	406:47 ^a **	506:47 ^a **	606:47 ^a **	706:47 ^a **	806:47 ^a **	906:47 ^a **	1006:47 ^a **	1106:47 ^a **	1206:47 ^a **	1306:47 ^a **	1406:47 ^a **	1506:47 ^a **	1606:47 ^a **	1706:47 ^a **	1806:47 ^a **	1906:47 ^a **	2006:47 ^a **	2106:47 ^a **	2206:47 ^a **	2306:47 ^a **
2	American. Willie Hearne William McMichael	106:47 ^a **	206:47 ^a **	306:47 ^a **	406:47 ^a **	506:47 ^a **	606:47 ^a **	706:47 ^a **	806:47 ^a **	906:47 ^a **	1006:47 ^a **	1106:47 ^a **	1206:47 ^a **	1306:47 ^a **	1406:47 ^a **	1506:47 ^a **	1606:47 ^a **	1706:47 ^a **	1806:47 ^a **	1906:47 ^a **	2006:47 ^a **	2106:47 ^a **	2206:47 ^a **	2306:47 ^a **

*Time as given out officially includes two laps.

**Strang's time was given out as for one lap, although he completed two

NOTE—Where lap times do not agree with totals, fractions have been dropped.

RECORD OF THE FAST AND SLOW LAPS OF EACH CAR

Car and Driver	Lap	Fastest M.P.H.	Lap	Slowest Average
Alco—Grant.	22	10:33	8	17:13
Fiat—Parker.	6	11:47	1	18:43 ^a
Chalmers—Knipper.	2	10:54 ^a	12	14:53 ^a
Mercedes—Wishart.	1 & 4	11:10	8	48:13
Atlas—Knox.	6	12:41 ^a	11	42:26
Chalmers—Lorimer.	7	11:24 ^a	10	12:01 ^a
National—Merz.	3	11:55 ^a	8	14:46 ^a
Apperson—Harding.	1	12:11	6	14:22 ^a
Marmon—Stillman.	3	10:57 ^a	4	11:30 ^a
Isotta—Seymour.	4	9:56 ^a	2	12:13 ^a
Buick—Chevrolet.	2	10:51 ^a	3	27:17
National—Aitken.	2	12:44 ^a	2	23:18 ^a
Fiat—Hearne.	1	12:31	1	106:47 ^a
Simplex—Mitchell.	1	106:47 ^a	1	106:47 ^a
Fiat—Strang.	1	106:47 ^a	1	106:47 ^a

AVERAGE SPEED OF THE LEADERS

Car	Driver	Miles	Time	M.P.H.
Alco.	Grant.	278.08	4:25:42	62.77
Fiat.	Parker.	278.08	4:30:58 ^a	61.55
Mercedes.	Wishart.	202.24	4:08:56 ^a	48.07
Atlas.	Knox.	176.96	4:19:40	40.93

Car & Driver	Start	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Fin.	Car
FIAT-STRANA	1	3	5	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	First	Alco
AMERICAN-HAUP	2	7	7	6	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	Second	Fiat
SIMPLEX-MIRENELL	3	6	6	15	5	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
FIAT-HEARNE	4	9	9	9	16	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
ATLAS-KNOX	5	10	15	16	9	17	11	16	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
APPRSN-HARDING	6	5	16	17	17	11	8	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
CHLMRDTH-KNIPPER	7	15	16	17	17	11	8	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
ALCO-GRANT	8	11	17	10	10	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
CHLMRDTH-INGE	9	14	17	11	11	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
NATIONAL-AIKEN	10	12	11	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
NATIONAL-MERZ	11	14	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
MARMON-STILLMAN	12	17	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
FIAT-PARKER	13	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
BUICK-CHEV ROLET	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
MERCEDES-WIEHART	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14
IS JTTA SEMOUR	16	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
17																									

SCORE CARD-VANDERBILT CUP RACE - Oct 30/09 - GRAPHICALLY ARRANGED TO SHOW HOW CARS GAINED AND LOST POSITION EACH LAP

LAP BY LAP TIMES OF RACE FOR MASSAPEQUA TROPHY, DISTANCE 10 LAPS, 126.0 MILES

No.	Car and Driver	1	2	3	4	5	6	7	8	9	10	M.P.H.
43	Chalmers-Detroit "30"..... Joe Matson	12:54 13:00	25:42 12:42	38:48 13:06	51:26 12:38	64:36 13:10	77:43 13:07	90:47 13:04	103:47 13:00	116:54 13:07	130:00 13:07	58.4
46	Maxwell..... Martin Doorley	14:56 14:56	32:08 17:11	46:41 14:33	61:16 14:35	76:53 15:37	90:30 13:37	104:39 14:34	119:26 14:22	133:59 14:32	148:28 14:29	51.1
44	Maxwell..... Arthur See	15:02 15:02	29:15 14:12	44:39 15:24	59:33 14:44	74:31 14:58	89:30 14:59	104:39 15:09	119:50 15:11	135:06 15:16	150:24 15:18	50.4
42	Hudson "30"..... George Ainaloe	14:17 14:17	25:27 11:10	41:16 15:49	57:08 15:52	72:57 15:49	88:42 15:45	105:36 16:54	120:19 14:43	136:02 15:42	151:47 15:45	50.0
41	Chalmers-Detroit "30"..... W. R. Brown	14:32 14:32	28:01 13:29	41:38 13:37	55:08 13:30	68:38 13:30	81:15 12:37	96:01 14:46	109:39 13:38	121:23 11:43	133:00 11:43	
45	Maxwell..... Thomas Costello	12:36 12:36										

EXPLANATION OF SPEED-POSITION CHART

The card shows the time in which each car finished the lap. The laps are arranged in vertical lines from left to right as numbered at the top, the first column being the start, and the position of each car in that lap is shown by its distance from the top of the column. Of course, at the start of the race the cars were in their regular order, and their numerals show in that manner. Then, as the car progressed during the race, its numeral is shown in the column of each lap, in the position in which that particular car was placed at the finish of that lap.

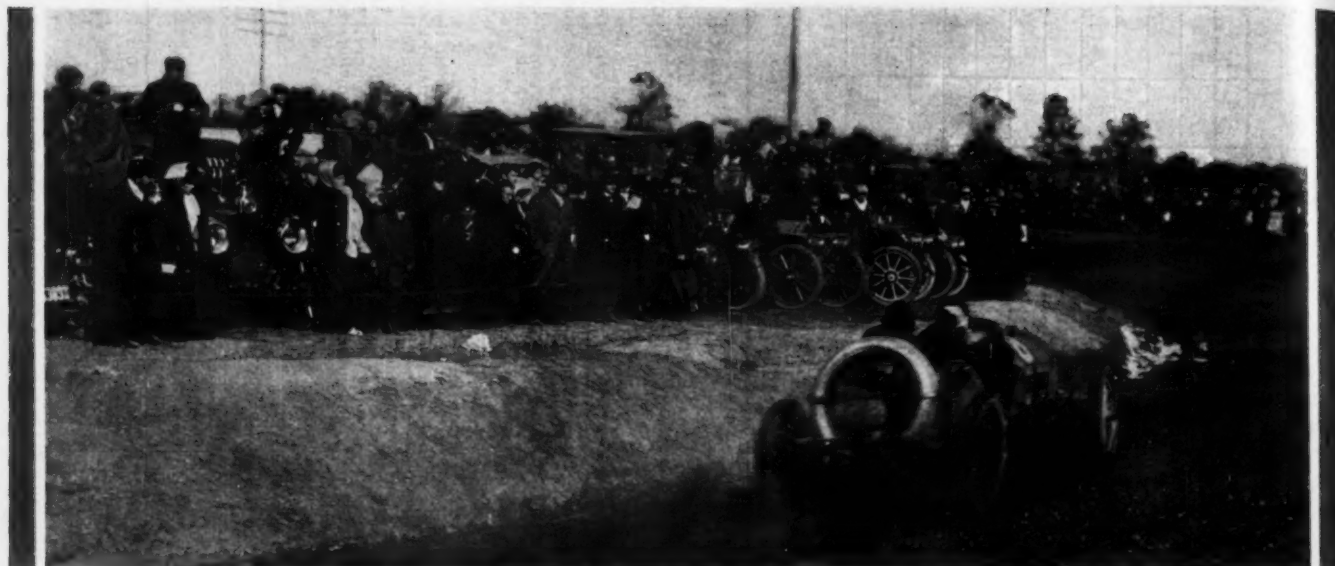
These various positions are connected by lines, for readiness in following a car, and it has the additional advantage of showing exactly what cars passed each other during a lap, as every intersection of these connecting lines shows that the car whose line has the greatest inclination up, passed the car or cars which have a less inclination. Thus, during the second lap, the registration of the passing will be between columns 1 and 2, and it will be noted that car No. 15 passed car No. 5 and 10; but it can likewise be noted that car No. 11 passed car No. 5, because of the less dip of the connecting line for No. 11 than of the connecting line for No. 5.

Having entered the numbers of the cars in their order for each lap, they can then be joined as the race progresses, by the connecting lines, so that one has a continuous score at any time, showing the exact performance of each car in a graphic method and one which is very easily kept by anyone interested.

DETAILED RESULT OF THE RACE IN CLASS 3 FOR THE WHEATLEY HILLS TROPHY, DISTANCE 15 LAPS, 189.60 MILES

No.	Car and Driver	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	M.P.H.
32	Marmion..... R. W. Harroun	12:39 12:39	25:04 12:24	37:31 12:27	50:09 12:38	62:49 12:38	75:11 12:22	87:17 12:05	100:12 12:55	112:17 12:05	125:14 12:56	138:07 12:53	150:48 12:40	163:49 13:01	176:52 13:03	189:60 13:28	59.76
33	Columbia..... R. W. Wilcox	15:29 15:29	29:11 13:42	43:17 14:06	57:07 13:49	70:50 13:42	85:06 14:16	98:46 13:39	112:16 13:30	130:51 18:35	149:51 18:59	162:30 12:38	176:36 14:06				
31	Marion..... A. Munson	33:16 33:16	65:37 32:21	108:15 42:37	142:30 34:15	174:31 32:01	193:20 18:48	216:35 23:15	240:32 23:57								
34	Moore..... Philip Wells	15:10 15:10	30:08 14:58	44:11 14:03	58:06 13:54	76:03 17:57	91:20 15:17										

Still running when race was called off.



Grant Negotiated the Westfield Turn at High Speed, Hugging the Pole Unusually Close

HOW THE LEAD SHIFTED DURING THE PROGRESS OF THE VANDERBILT CUP RACE

No.	Car	1st Lap	2nd Lap	3rd Lap	4th Lap	5th Lap	6th Lap	7th Lap	8th Lap	9th Lap	10th Lap	11th Lap	12th Lap	13th Lap	14th Lap	15th Lap	16th Lap	17th Lap	18th Lap	19th Lap	20th Lap	21st Lap	22nd Lap
8	Alco.....	11	10	9	8	7	6	6	6	5	5	4	3	2	3	2	2	2	2	2	1	1	1
14	Fiat.....	13	13	12	11	9	8	7	5	6	6	5	5	3	2	3	3	3	3	3	2	2	2
7	Chalmers.....	4	2	4	4	3	2	1	1	1	1	1	2	1	1	1	1	1	1	1			
16	Mercedes.....	1	3	2	2	1	1	5	8	8	7	6	6	4	4	4	4						
5	Atlas.....	12	12	11	12	10	9	8	7	7	8	7	7	5	5								
9	Chalmers.....	7	7	5	6	4	3	2	2	2	2	2	1										
11	National.....	8	9	8	9	6	5	4	4	4	4	3	4										
6	Apperson.....	6	6	6	7	5	4	3	3	3	3												
12	Marmon.....	9	11	10	10	8	7																
17	Isotta.....	3	4	3	3	2																	
15	Buick.....	2	1	1	1																		
10	National.....	5	8	7	5																		
4	Fiat.....	14	14	13	13																		
3	Simplex.....	10	5																				
1	Fiat.....	15																					

MARMON HAD IT EASY FOR WHEATLEY TROPHY

LAP 1—Four starters that got away in the contest for the Wheatley Hills trophy reached the scorers' stand at the conclusion of the circuit in the following order: Marmon (Harroun), Moon (Wells), Columbia (Wilcox), and Marion (Munson), the ultimate winner taking the lead at once.

Lap 2—Harroun's Marmon still led, and Wilcox's Columbia gained second position from the Moon, driven by Wells. Munson had considerable trouble with his Marion, and the time

spent at the repair kit put him hopelessly out of the running.

Laps 3 to 15 (inclusive)—It was a virtual walkover for Harroun and his Marmon, as he was never headed or even pushed by the rest of the contestants. Wilcox's Columbia, which was in second position, was on its 13th lap when the contest ended, and the Moon withdrew on the 7th circuit. The Marion was far behind, but still running when the contest for the Vanderbilt Cup ended on the completion of the twenty-second lap.

CHALMERS HAD MOST SPEED OF LITTLEST ONES

LAP 1—Thomas Costello who drove Maxwell No. 45, led the field of six starters for the first round in the race for the Massapequa honors. Joe Matson, who piloted the Chalmers "30," finished a close second, and Ainslee, with his Hudson "20," was third. Brown, who drove the other Chalmers "30," showed up fourth at the scorers' stand, and Doorley, who drove Maxwell No. 46, was in fifth position, followed by the third Maxwell entrant, No. 44, driven by Arthur See.

Lap 2—In making this circuit Ainslee brought his Hudson "20" to the front of the field from third position. He was a shade ahead of Matson's Chalmers, which maintained second place. Brown's Chalmers followed, and was in turn succeeded by See's and Doorley's Maxwells, respectively. Costello had trouble with his motor and withdrew from the race.

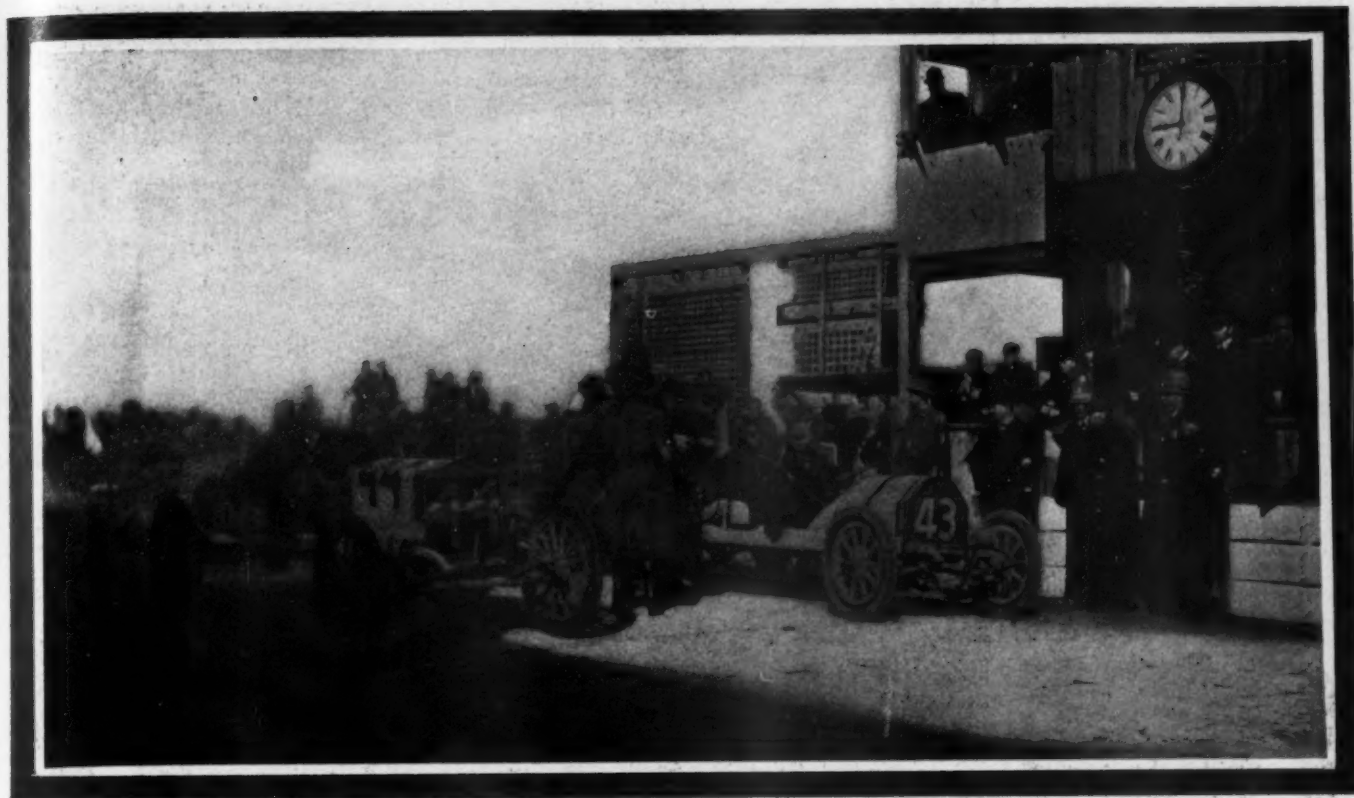
Lap 3—Matson's Chalmers gained first position in this round

of the circuit, and the Hudson followed closely. There was no change in the positions of the other cars.

Laps 4 to 6 (inclusive)—With Matson still leading, Brown brought his Chalmers into second position in the fourth lap, the Hudson dropping to third place, with the See and Doorley Maxwells following. These positions were maintained.

Lap 7—The only change in position was with the Hudson, which dropped from third to fifth place.

Laps 8 to 10 (inclusive)—Relative positions were unchanged, the two Chalmers leading the field, with Matson ahead, until the concluding lap, when Brown, who was gaining slightly on Matson, threw a rear wheel near Massapequa turn. The other competitors were a lap behind, but completed the distance in good order, the Maxwells driven by Doorley and See getting second and third places, respectively, and the Hudson a good fourth.



Promptly at Nine O'Clock the First Car Was Sent Away, It Being No. 43 Chalmers-Detroit, with Matson Driving.

WHY IT WAS THAT SOME OF THE CARS DIDN'T WIN

NEVER in the history of the Vanderbilt Cup race has there been such a depletion of the ranks of the contestants. The strangest part also is that the lack of finishers was not due to long tire delays, in the majority of the cases, but to mechanical difficulties alone.

In proportion to their numbers the little fellows, headed by Joe Matson in the Chalmers, made the best showing. Four of them finished, and five of the six starters were running on the ninth lap. Compare this with the showing of the big cars, as well as that made by the cars in the Wheatley Hills sweepstakes. In the Vanderbilt, two cars finished and five were running at the finish. In the middleweight event, the Marmon had a walkover, and the Columbia was well in the rear, but still running.

Compare the results of the former Cup races and we find that the number of those who fell by the wayside is almost as great as the number that went by the board in the first of these classics in 1904. In other words, but 29 per cent of the cars were running at the end of the race. A partial explanation is that the 1909 Vanderbilt course, though shorter than in previous years, was a particularly hard one for the cars. It is undeniable that the surface of the parkway, when covered at high speed, subjects the cars to severe treatment—much more severe than will be met with over even average country roads.

Very little of trouble which overtook the cars could be remedied at the pits. All that met with accidents on the road could not be ascertained absolutely, but such as was confirmed will be set down below.

Briefly the causes by which the various cars were eliminated are as follows: Strang's Fiat had a broken radiator; No. 2 American broke the center main bearing and sprung the crankshaft the day before the race; No. 3 Simplex broke its crankshaft on the third lap; No. 4 Fiat, driven by Hearne, cracked the second cylinder and punched a hole in the crankcase, on the fifth lap; No. 6 Apperson turned over, on account of a broken steering knuckle, so it was reported; No. 7 Chalmers, driven by

Knipper, had an air-bound oil pump so that the motor ran dry and a connecting rod bearing seized; No. 9 Chalmers, driven by Lorimer, had a piston seize; No. 10 National broke a rear wheel and also smashed the rear construction, while his team mate is reported to have suffered from engine trouble; No. 12 Marmon, driven by Harry Stillman, broke a water manifold and cracked a cylinder; No. 15, Chevrolet's Buick, also ended up with a cracked cylinder; No. 17 Isotta had the misfortune to crack a steering knuckle, due, it is stated, to taking a ditch in attempting to pass the Alco.

So much for the Vanderbilt cars, and now for the smaller ones. "Buster" Brown, who was driving the Chalmers, on his last lap and in second position, had the rear axle break, and when the left rear wheel dropped off he was out of it; No. 5, Costello's Maxwell collided with a tree on the second lap; No. 31, a Marion, took from 10 to 30 minutes each lap to replace inlet manifold gaskets. The fate of neither the Columbia nor the Moon could be ascertained at the grandstand.

Observed at the Grand Stand Pits

Several interesting episodes took place at the pits. Interest waned considerably as the stops became less frequent and the number of contestants smaller. However, the reason for the various stops at the pits and the time lost at each may prove of interest. First to stop at the pits was Hearne in the Fiat. The motor was missing badly and the spark plugs were changed. Next to lose time was the Marion No. 31, spending 5 1-2 minutes replacing inlet manifold gaskets. No. 34 Moon lost two minutes on the fifth lap taking on two new tires. Immediately after the Isotta came down the course on its sixth lap very slowly. It was soon learned that a steering knuckle was bent and cracked. In close order came the Marmon No. 12, which required 1 1-2 minutes to fill up with water, after which it failed to show up again on the seventh lap. On the third, Marion again stopped for inlet manifold gaskets; otherwise, the car was running nicely.



(1) Where Officials and Pressmen Held Forth

(2) Sir Thomas and Other Hibernians

(3) Referee Vanderbilt Considering Scoring Error

(4) Judge and Mrs. E. H. Gary

(5) Lawrence Waterbury, Polo Expert; Miss Sears, Tennis Champion; Alfred Vanderbilt, Coaching Enthusiast

(6) August Belmont and Harry Payne Whitney

(7) Sir Thomas Lipton, Commodore F. K. Bourne, W. K. Vanderbilt, Jr., Dave Hennen Morris

Grant on the sixth lap pulled up at the pit to have two tires changed. Grant must be credited as being the coolest and most collected of the drivers in the whole race. Even though 15 minutes behind the leaders, at one of his stops he appeared no more hurried than if he had been as much ahead. It was with this very attitude that he took the opportunity to clean his spark plugs while waiting for the tires to be changed. Altogether 4:45 minutes were taken to put on new tires and clean the spark plugs.

At this juncture the Fiat No. 4 drew up at the Fiat pit, on the fourth lap, and when the hood was raised the reason for his slow approach was clearly evident. A 4-inch hole was punched in the lower cylinder wall of the second cylinder. In addition the crankcase had been crushed open. All were indications that a connecting rod had let go. No. 6 Apperson on its fourth lap stopped at the pits to tighten up the clutch, which seemed to be slipping; 2:45 minutes were required in all.

No. 16 Mercedes, which up to the seventh lap had been holding a good position, was forced to stop on account of a broken pipe from the reducing valve to the gas tank. An attempt was made to repair it temporarily with tape, but the frequent stops afterward proved that young Wishart was unsuccessful. Next to stop was Knipper on the Chalmers. A right rear tire was replaced and the tanks were refilled, 2:15 minutes being required by the change. Wishart, with the Mercedes, stopped on his eighth lap for 35 minutes to do more work on the broken pipe. No. 31 Marion again made a stop for the same reason.

About this time Strang appeared again, just completing his first lap. The second lap was never attempted, for the timing gears had not only made a hole in the cover, but also in the radiator. On his tenth lap Grant in the Alco made a second stop, to put on a new front tire and filled up his tank, 2:45 minutes being required. No. 31 had now begun to stop regularly each lap to put in new gaskets. No. 16 followed suit, and continued operations from lap to lap, working on the air pipe to the gas tank. Only 20 minutes were lost this time, and in addition two fresh tires were put on front. Knipper stopped on the tenth lap to change a right front tire, which was accomplished in 1:20, being one of the fastest changes made at the pits. At this juncture the report came that No. 5 Atlas was off the course, and this was confirmed by the two slow laps which it made, its tenth and eleventh being 37 and 42 minutes, respectively.

On the eighteenth lap, Knipper, who was leading the Alco by nearly ten minutes, had to stop to put oil in the crankcase since that in the supply tank could not reach the motor. Seven and one-half minutes were lost in this work. His failure to stop on the next lap for another supply resulted in the seized bearing. Despite this fact it was reported that the motor was again running, but the race was called before the car could finish the lap.

On the fifteenth lap the Atlas stopped for more oil and gasoline. The motor was kept running the entire time of the stop and a peculiar phenomenon was always evident. The motor was of the two-cycle variety, and when throttled down would miss and exhaust an explosive mixture into the atmosphere. This gas would then be set off by the exhaust from another cylinder. The effect of the explosion was not felt near the car, but at a distance of about ten feet from the exhaust pipes.

The last man to stop at the pits was Wishart in the Mercedes, and since the race had been called off he made no attempt to start again.

Tires, Magnetos and Oil of the Winners—The three races showed consistent performances for well-known makes both of magnetos and tires. Michelin scored first and second in the Vanderbilt and first in the Wheatley Hills and Massapequa Sweepstakes. Grant's Alco, Parker's Fiat, Harroun's Marmon and Matson's Chalmers-Detroit all depended for their shoeing on the tire made in France and New Jersey.

The magneto question brought forth a similar unanimity, although the nationality favored was German, also well Americanized. The vital sparks on Alco, Fiat, Marmon, and Chalmers-Detroit were generated by Bosch armatures revolving within Bosch magnets, timed by devices of the same make; and Bosch especially proved its merit on the six-cylinder Alco by turning one-and-a-half times engine speed and producing three sparks on each revolution.

In lubricants the chief victory goes to Harris oil. Grant chose this brand to "soothe the worrying cranks" of his Alco, and apparently his judgment was vindicated by the perfect satisfaction it gave on the 278-mile course, keeping the mechanism in condition for the final four-lap spurt at 70 miles an hour. These four successive rounds, in 10:49, 10:43, 10:58 and 10:33, clinched the race by opening up a five-minute gap on the nearest rival, and proved the perfect condition of the car at the finish.



Leaving the Parkway and Taking to the Country Road Near Westbury—Arthur See's Maxwell in the Foreground



IN the last generation not one woman in a hundred did anything outside the four walls of her own home; to-day, on the other hand, there is hardly one in a hundred who is not interested in some form of out-door sport or recreation. A woman driving her own automobile forms no unusual sight at the present time and attracts scarcely passing attention.

Every woman who drives should become thoroughly conversant with the mechanical part of her car and should be able to overcome the ordinary troubles which may arise. Each, too, should prepare herself as far as possible in guarding against troubles which are likely to occur even with the best motor.

The chief obstacle in many cases when a woman wishes to become a skilful and independent driver is her own nervousness. She is continually anticipating troubles, instead of giving her attention to a systematic study of her car with a determination to succeed and overcome the ordinary troubles which may arise.

Another type of woman automobilist is she who considers that she "knows it all"; who, because she can manage the steering wheel, which is the very easiest of the many things to learn, and with only a superficial knowledge of the parts mechanical, considers herself a really competent motorist. She probably learns how to remove and clean a spark-plug and a few other of the smaller details, and then goes driving about the country thinking herself capable of making a repair if needed. When the time comes, however, she quickly learns her mistake; she either finds herself dependent on the aid of some passing autoist or else sends for an expert and so confesses her ignorance.

Which is more to be pitied from the automobiling standpoint—the woman who is ignorant of the essential features of a gasoline motor on account of a nervous indisposition to understand it, or the woman with a shallow smattering of things mechanical which she flatters herself is all-sufficient? Certainly, neither of them is competent to drive a car unless accompanied by an expert. That they escape trouble is simply due to good luck and most decidedly not to any mechanical knowledge they possess.

What the Beginner Should Learn—Every woman who contemplates driving a car should make it her aim and ambition to learn the working features of the motor, to familiarize herself with the different parts and know what should be done in cases of emergency. It is necessary to use one's head much more than one's muscle.

Many little things must be learned by heart before one can become a really competent driver.

Test the batteries occasionally; see that the spark coil buzzes in tune; keep the spark plugs clean and see that the current passes through them; never allow the motor to run without lubricating oil or to become overheated; don't try to run the motor with the water circulation shut off.

Neither should the motor be over-lubricated; blue smoke

from the exhaust is the sign of over-lubrication, and black smoke shows that too much gasoline is being consumed. Both cause sooted spark plugs and dirty valves.

Gasoline should always be strained before being put in the tank, as the merest trifle of dirt or grit is sufficient to clog up the carbureter. There are some troubles that cannot be guarded against, but dirty gasoline is one thing that should never be allowed to cause annoyance.

Always avoid allowing the motor to race, but keep it at the speed at which it runs most efficiently. All useless revolutions of the motor when it is running idly are many moments loss of its life, not to mention an unnecessary waste of gasoline, lubricating oil and bearing metal.

There is an economic and pleasant speed for every engine, just as there is for a living person, a speed at which a person can walk and run without taxing the muscles or destroying the tissue of the system. So with the piston of an engine. In the duty of an engine, driving the car and running light are two entirely different conditions. When working, the engine has the flywheel effect of the car behind it; it is backed by a ton of metal in motion with itself, and so is held steady.

Running light, on the other hand, has nothing to balance it except its own comparatively small flywheel. Therefore before declutching one should throttle down the engine, and before starting throttle down to the point where the engine will most easily take hold.

Never draw up with the brake if possible; it wastes tire rubber every time it is done. Instead, withdraw the clutch in anticipation of the stopping point and just make the standstill with the brake.

Distinguishing the Good Drivers—Skilful driving does not consist of running at high speed close to vehicles or other obstacles and then jamming on the brakes to avoid a collision. When driving in town—or anywhere, for that matter—if there is ever any doubt whether the car can get through, don't try it.

Don't go near the pavement too suddenly, for a deaf person or one engaged in other thoughts may step off in your path.

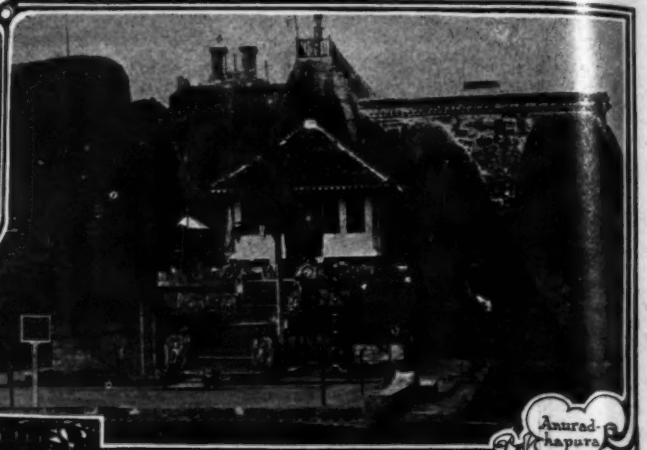
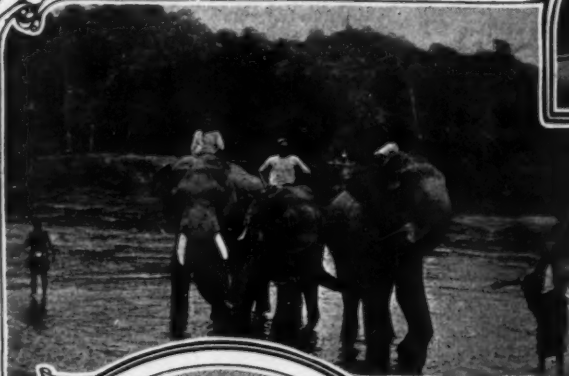
When passing a car head on, blow the horn loudly enough to reach the ear of a person walking across behind the other car. Always go too slow rather than too fast.

Some women understand the construction of a gasoline motor well enough to take it apart and put it together again, but of course there are many women to whom working around machinery covered with oil and grease is too distasteful ever to allow them to get much practical knowledge in this respect.

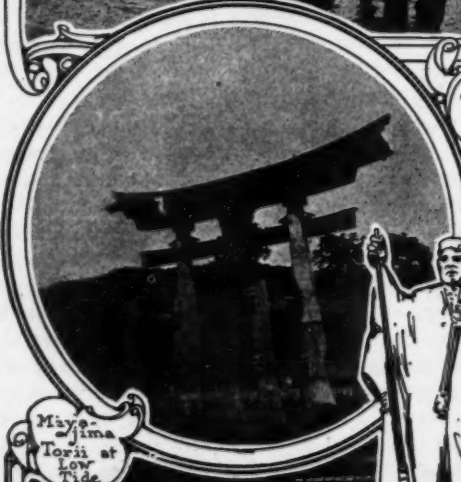
When the average woman of intelligence makes up her mind to become possessed of the necessary knowledge it does not take her long to develop into a careful and successful automobilist who can enjoy the pleasures and benefits of the sport.

AUTOING IN OUT-OF-THE-WAY PLACES

By
Frederick K. Stearns



Anuradhapura



Mayajima
Torii at
Low Tide

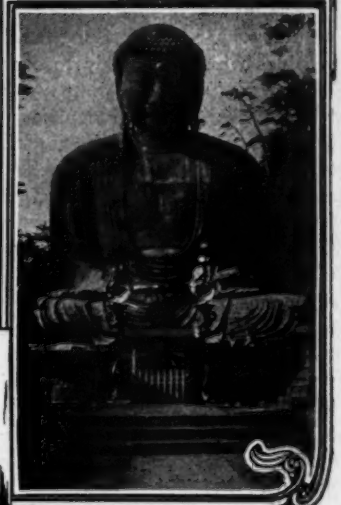
In
Ceylon
"The
Morning
Bath"



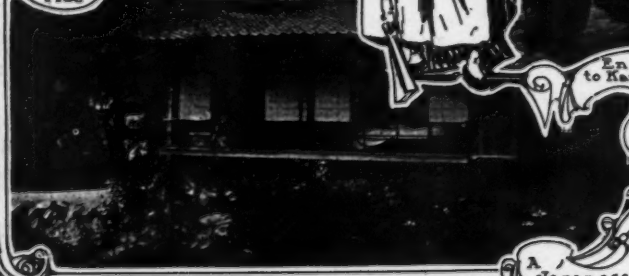
Singapore.
Messrs. Allen and
Stephens
Mr. F.K. Stearns



En Route
to Kamakura



Bronze Daibutsu of
Kamakura.
Messrs. Swaine, F.K. Stearns and
S.C. Stearns



A
Japanese
Bungalow



In
Ceylon



Where
only Man
is vile
Ceylon



HERE may be other nations as gracious as the Japs in their treatment of foreigners, as considerate of the feelings of the stranger within their gates; if so they have managed to keep their identity carefully concealed.

One bright morning we took a car in Yokohama—a Ford, by the way, of the earliest vintage, but which the owner assured us was the best ever—and started for Kamakura, a naval station some miles distant on the bay. The road was none too wide and at one point we encountered a huckster's wagon, built like our oldtime two-horse drays and drawn by a lumbering bullock. Through intent or oversight, the driver had backed his cart across the road in such a manner that it was impossible for us to pass. Stopping the car, our chauffeur got out to assist the huckster in turning around, but the bullock took fright at the puffing of the automobile and backed

abruptly into the ditch, dumping out everything there was in the cart. It was a most unfortunate occurrence, and we got out intending to make out apologies to the huckster.

Did he curse us? Did he invite us to take a thrashing at his hands? Did he threaten to have us arrested as the average American would? He did nothing of the kind. With a deprecatory wave of the hand he bade us refrain from lamenting. Then, to our astonishment, he poured forth the most profuse apologies, begging that the "honorable gentlemen" might pardon such a worm of the earth as he for having gotten in their way. Every time we started to say anything we were checked by a fresh outpouring of apology, the peddler not even seeking to right his cart until he had offered numberless regrets couched in the humblest terms for an accident in which, as a matter of fact, he should have shared none of the responsibility.

But if the Japanese are models of politeness to foreigners, they have no trouble understanding each other in the event of an altercation. One day we unwisely decided to abandon motoring for the time being, and, securing one of the only two carriages available, drove about Tokio behind a spirited team guided by a nearsighted native who was far from being an expert with the reins. He had a penchant for turning corners with two wheels of the carriage in the air, and after one such effort the horses plunged through the front of a barber shop, playing havoc with the flimsy structure. We proposed stopping and compensating the proprietor for the loss sustained, but Katsuyama, our guide, would have none of it, assuring us that as our destination was only a block or so away he would remain and fix matters up.

"Give him five or ten dollars, enough to fix his shop up again," was our parting injunction.

A little later Katsuyama and the barber, both chattering wildly and with much waving of arms, came down the street surrounded by a crowd in which were several policemen.

"What do you think," stormed Katsuyama, when we had forced our way through the crowd to his side, "the greedy devil refuses to settle."

"How much did you offer him?" we inquired in unison.

"Thirty-five cents," replied Katsuyama, fairly burning up with indignation, "and he wouldn't take it. He wanted more, the greedy devil."

He got more, too, in spite of the vehement assertions of our guide that he was a robber. Thereafter we stuck to motoring or to rickshas.

Katsuyama furnishel little or no cause for complaint, however. A Japanese guide gets a commission on every purchase made by members of his party, and he is always on hand to collect it. Whenever we entered a shop, to which Katsu usually piloted us, however trifling the purchase, he would call the proprietor aside and in his blandest manner inform him that he was Katsuyama.

That settled it, Katsu pocketing his commission in the most matter-of-fact manner.

All this was legitimate, however, and on the road Katsu proved himself a wizard in many respects. He had the most wonderful lunch basket imaginable, and in producing delicacies therefrom displayed all the dexterity of a magician. When we halted by the wayside Katsu got the "honorable" hot water and brewed us each a bowl of the most delicious tea. Then from that marvelous basket appeared in order cups, saucers, plates, knives, forks, spoons, napkins, cakes, biscuits, jam, potted meats, fruit, "tan san" water, and, if wanted, Scotch and soda. Had we called for hot toast there is every reason to believe he would have fished it out from the innermost depths of that seemingly inexhaustible basket. Katsu was a wonder, and it was with sincere regret that we finally parted company with him.

Auto Still Attracts Attention in Japan

In spite of the general progressiveness of the people, an automobile is still a *rara avis* in Japan, attracting universal attention whether in the city or out in the country. Japan has not taken the road question seriously as yet, at least so far as making provision for automobiles is concerned. The highways are for the most part ordinary, in many cases being positively bad for all save native carts and rickshas, which everybody uses.

However, you soon forget all about the roads, so interesting are the sights encountered. Not the least of these are the children that make every village a human ant hill. They line roadway, grave visaged little brownies, and stare solemnly at the strange looking equipage as it puffs along. Wee tots, mere babies themselves, have still smaller ones strapped to their backs, often fast asleep, with their poor little heads bobbing about in a manner that threatens dire results to their necks. A little thing like weight appears to be no handicap to these sturdy youngsters, and it is a common sight to see a child running and playing with another half as large strapped to its back.

They are a quiet race, but seem to extract a deal of fun from life, and there is always a smile and so much politeness.

The ride from Yokohama to Kamakura is delightful, the road part of the time skirting the sea and again running through farming country and villages where the air is literally filled with kites, great big red and black fellows, soaring about and presenting a most grotesque appearance.

Kamakura has many famous temples and other buddhas, the greatest of which is the Diabutsu, a bronze buddha fifty-seven feet high, set in a grove of very ancient pine trees. It is also a naval station, and you are not allowed to take photographs there. However, there is nothing to prevent getting one of the priests to take them for you.

Japan a Joy to the Traveler

Aside from its lack of good roads, Japan is a joy forever to the traveler. On every hand there are little tea houses, exquisitely appointed, where the daintiest of Japanese maids serve you with tea, stand at your side and endeavor to carry on a conversation in their quaint "pidgin" English, and puff industriously at your cigarettes.

The artistic sense of the Japanese is everywhere apparent, but its highest stage seems to have been reached in the location of these tea houses, with their arbors of wistaria and the little settees scattered about in the shade. They are "toy" houses, and the furnishings and people correspond to a nicety.

Japanese civilization is much older than our own, which may account for some of the customs that obtain. It is a trifle disconcerting to have a Japanese maid come pattering into your bedroom just about the time you have discarded those articles of apparel prescribed by the dictates of polite society in your own country, and blandly ask if you are in need of anything. Likewise, for the first few times you fail to appreciate the thoughtfulness of the girl who noiselessly slides into your room, prepares the water for your bath, and remains to see that your ablutions are properly started. They think nothing of it. In many of the

hotels in small towns there are few if any doors with locks, merely panels that slide back and forth, and the "bellhops" enter and leave at will. They don't believe in doing two things at once, these quaint little maids that are employed in all hotels, with the result that there is a constant pitter-patter of sandaled feet, and a regular procession of attendants with your "honorable" hot water, or after your "honorable" boots or something else. In the morning before you arise they serve you with tiffin (lunch), and the last thing at night they are on hand to see that you are comfortably settled. They are a decided improvement over the average American or European bellboy.

A room in a Japanese hotel is designated by the number of mats on the floor. You can get a four-mat, a six-mat, or any sized room you desire. Often that is about the only thing they contain. At Onimichi there was a little tea house whose doors and ceilings continually interfered with the altitude of a man from the Occident, and where the four-mat room was just what its name implied. At night they brought out a double portion of quilted mattress, with a quilt nearly a foot thick for a coverlet. Fortunately the house stood on the edge of the sea, and as they pushed back the paper windows, thus admitting plenty of air, it was possible to sleep without suffocating.

If Japan's roads are a disappointment, which, however, is more than offset by the exquisite beauty of the country, its flowers that beggar description and the courtesy of its people.

Ceylon's Highways Were a Surprise

Ceylon's highways prove a distinct surprise. Never outside of Massachusetts and one or two other Eastern States have we ever found in America such splendid roads as traverse "the isle of spice." In Colombo they are of macadam, made from red stone that gives a decidedly pleasing effect. You are limited somewhat in the matter of motoring, owing to the size of the island, but every foot of it is well worth seeing. The cars found here are mostly of English make, the one we employed being an Argyle, powerful enough but rather old-fashioned and by no means up to the standard of present American makes.

Three days are required in doing the island, about one hundred and fifty miles being covered daily, although a week or more might be spent to advantage in this manner. From Colombo to Putalam, a government "rest house," which you reach early in the afternoon, the road skirts the seashore. From there it leads into the interior, winding through the jungle. Monkeys entertain you with their antics in the trees, and once a jackal slid across our path, but aside from this the jungle was no worse than the thick woods to be encountered almost anywhere in America, while the roads were so fine as to be almost disappointing.

Anuradhapura, one hundred and twenty-five miles from Colombo, and the turning point for motorists who return to Colombo by way of Kandy, is a delightful spot, the rest house being set in an old garden of banyan trees, with jasmine, roses and lilies.

The sacred Bo tree and Rock temple are points no tourist should overlook. It is worth a long journey to see the solemn-visaged high priest who holds a screen before his face while he pronounces a blessing upon you, and then, attired in the gaudiest of robes, takes a gigantic key and with measured tread leads the way to big brass doors in the rock where a buddha, carved out of solid rock, sits contemplatively viewing the surroundings.

The Hottest Place on Earth

Penang is another place where you can motor with comfort, that is, unless you are desirous of taking a comfortable bath afterward. The cars in use here are of an ancient type and not quite powerful enough, but Penang is one of the most interesting places imaginable. The bath? Instead of the diminutive tin tubs that are made to do service throughout most of the Orient you find a huge earthen jar, holding twenty gallons or more of water, with a tin dipper attached. Divesting yourself of your apparel, you stand on the cement floor—about the only cool thing in Penang—and pour water over your head and shoulders, letting it trickle down over the body.

The roads running out from Penang are as near perfect as could be and lead through tropical forests, past plantations of pepper and cocoanut, with all manner of palms, and with flowers overrunning everything. They say Penang is the hottest place on earth, Aden not excepted. Perhaps it is, but you are not required to exert yourself here. Nobody does, and with a motor car, plenty of servants to do everything for you, and such magnificent roads and scenery, Penang proves an ideal spot.

When You Go to Singapore

Unless you have taken a motor ride with Joe Constantine, famous the world over as manager of the Raffles Hotel, you have not done Singapore. Joe knows every point of interest that can be reached with a motor car, and in his company you forget that Singapore is but a degree and a half above the equator, and that the breezes come from "the mouth of hell." A moonlight ride about the city and its environs in a motor car is an experience never to be forgotten.

Bombay and Calcutta have automobiles in abundance. On the other hand, when you reach Hong Kong it is to find that the few autos there are owned almost entirely by private individuals. We had the rare good fortune to take several rides of short duration, but that was the only place in China where we found any automobiles; nor did we encounter any through Japan until we reached Yokohama.

From an American car of the present day to the antiquated machines found in the far East is a far cry. On more than one occasion we wished that we might encounter a live American who possessed a real machine in these lands where there is so much to see and where one accustomed to getting about expeditiously is often sorely tried by the leisurely Oriental methods.

BEST ROUTE WASHINGTON TO RICHMOND

CONSIDERABLE diversity of opinion has existed as to the best route between Washington, D. C., and Richmond, Va. Officers of the Gordon Motor Company, of Richmond, which concern has been very active in the Virginia good roads movement, announce that the following route is the most desirable:

WASHINGTON—		
16.9	Fairfax	80.0
23.6	Centreville	89.9
31.0	Manassas	98.0
36.4	Bristow	101.0
49.1	Catlett	110.7
55.1	Calverton	117.0
60.0	Midland	120.2
68.2	Remington	124.8
71.3	Elkwood	135.0
77.2	Brandy	142.6
	Inlet	178.0
		RICHMOND

Recently, C. C. Hildebrand, sales manager of the Stevens-Duryea Company, covered this route with a "six," in company

with Gordon company officers. Mr. Hildebrand calls attention to the progress in roads building in Virginia, where J. E. Pennypacker, of the office of public roads of the Department of Agriculture, has been aiding in a vigorous campaign. Quoted in a Richmond paper, Mr. Pennypacker says:

"America is entering upon a great era of road-building, and other States than Virginia are in the van. Other States are spending millions, where Virginia is spending thousands, and to keep abreast of the general progress she must bend every energy to the task and do it quickly. Virginia has wonderful possibilities as an agricultural State—every product of the temperate zone is possible to her farmers, and all at a profit. Twenty million urban dwellers are at her threshold waiting to buy. Good roads constitute the "sesame" which will unlock the treasure."



AFRICAN TOUR OF A BELGIAN SPORTSMAN

Baron Pierre de Crawhez ranks among the "Old Guard" of Continental automobilists, and in the early days of the sport won considerable distinction as an amateur driver of racing cars. He is president of the sports commission of the Automobile Club of Belgium and president of the Automobile Clubs of Namur and Luxembourg. Although a Belgian, and nominally a resident of Brussels, his address is usually, as he would say, "partout." Recently he has been touring in Algeria in a specially equipped car which made him quite independent of civilization. The ingenious arrangements by which every emergency is forestalled make an instructive study. The baron penetrated the Atlas Mountains, through which the French have built many of their famous roads, and made several excursions into the Sahara Desert. Game of many kinds, both feathered and four-footed, is abundant there, and the natives as a rule are law-abiding and inclined to assist the traveler. The region is as yet rarely visited by automobilists.

FOR 1910 PRINCE HENRY TOUR

BERLIN, Oct. 15—At a meeting of the Imperial Automobile Club and the Society of German Motor Car Industrials, the preliminary regulations for the 1910 Prince Henry tour were laid down. It was decided to run the contest on German territory only, and to hold it from June 1 to 8, with Berlin as the start and Homburg as the final stage.

The itinerary is as follows: Berlin, June 2; Brunswick, June 3; Cassel, June 4; Rothenburg, June 5; Strassburg, June 6; Coblenze, June 7; Homburg, June 8.

Two speed trials, both on the flat, will be held, the first on the opening day on a route between Geuthin and Magdeburg, and the second to wind up the event on the Taunus course.

A new formula will be worked out for these races, but the very superfluous, because circumvented, handicap of last year will be dropped. All vehicles of 8 to 25-horsepower are eligible. The minimum weight to be 77 kilos, with an additional 25 kilos for every horsepower over eight, exclusive of spare tires, of which at least one must be carried.

There are great changes in the management of the I.A.C., as Herr de la Croix, the general secretary, has withdrawn from his post, Rear Admiral Rampolt having been elected in his stead. Herr de la Croix remains, however, on the representative committee in place of the late Dr. Levin-Stoelpling.

RECENT FRENCH TRADE STATISTICS

The French trade statistics for the first nine months of 1909 afford very interesting reading compared with those of the same period of 1908, as they show a very considerable increase in the sale of both American and English cars in France, coupled, in each case, with a drop in France's return business, which, in America's case, shows a decided slump. The figures in pounds weight run as follows:

Exports		Imports	
1909	1908	1909	1908
Lbs.	Lbs.	Lbs.	Lbs.
300	1,000	..... Austro-Hungary	73,300 27,500
2,500	200	..... Argentine	461,000 334,100
400		..... Algeria	551,100 372,000
75,500		..... Belgium	1,428,800 877,700
	78,100	..... Brazil	103,600 169,300
83,400	39,000	..... England	4,852,600 4,871,400
166,700	218,500	..... Germany	781,600 935,400
118,300	112,300	..... Italy	236,300 162,700
		..... Russia	366,800 286,000
51,200	21,500	..... Switzerland	251,500 168,700
12,400	4,500	..... Spain	264,800 341,600
		..... Turkey	44,700 49,200
42,700	8,100	..... United States	646,100 875,500
7,000	4,400	..... Other Countries	794,100 746,700
560,400	487,600	Pounds	10,956,300 10,117,900

GOING SOME OR AUTOING OVER FIGURATIVE ROADS

By S. Ross

AS paint or polish is oft-times used to conceal defects, so does a certain figure of speech allow things designated by it to parade under false colors. Most of the wagon roads in south-western Washington rank as such merely by courtesy of the hyperbole, while the hills are really hills by divine right of unmolested geology. Of Seattle to Portland I wail, and "awfully" tired, if not equally disgusted, will be the autoist who essays the trip.

Considering the roads, "going some" might apply to my first day's traveling, though my odometer marked up but 130 miles. And, aside from a slow leak in a rust-cracked inner tube, which I repaired in 40 minutes, I had no mishap the first day. The 130 miles meant beyond Toledo, Wash., a small town on the Cowlitz River.

The then possession of the experience since gleaned would have led me to accept the advice of the White Steamer man, who, at the Cowlitz ferry, on the morning of my second day, urged me to camp in the shade of a large sycamore on the river's bank and ship by steamboat to Portland the next morning. For on the second day my mishaps seemed to have set in with vim and vengeance. From Seattle to Chehalis, a distance of 98 miles, the roads are very good; but 14 miles south of Chehalis one strikes the hyperbolic roads—gawky travesties on the name of respectable highways—routes that bespeak not of a citizenship of empire, but of slothful creatures who are "down shod to care" and who infest the crags. Something needs injecting. The last half of the road from Chehalis to Toledo is mostly planked, with divers planks missing or criss-crossed, and rough corduroy and pools of mud interspersed.

I made the trip in a two-cylinder, 12-horsepower runabout of the best grade, and marvelous it is what steep hills the little Autocar wonder climbed. Each cylinder seemed trying to outdo its mate, so well balanced was the commutator. Truly there are no hills steeper anywhere, and well-regulated communities will not tolerate hills as steep or rugged. Then there were several bridges which I had to cross on low gear at lowest speed—bridges of poles and logs heterogeneously conglomerated.



12 H.P. Autocar Beating
35 M.P.H. on Natural Macadam



Over Decadent Planks—
Divers Planks Missing



Through Tumwater, Oldest
Settlement in Washington



Through Pheasant and
Grouse-Habited Forest

It is only slightly figurative to say that many of the hills have the tilt of eggs we order fried.

At a small town called Napavine (the first syllable would well suffice) I took a boy's word, got on the wrong road, and soon ran into over three miles of the roughest corduroy in the world before again reaching the main road. In the retrospect, my trip seems one unbroken spell of mishaps. After starting to

the Cowlitz ferry the second day I missed the road when but 200 yards from the ferry, and went over three miles and return over the roughest road of my journey, except the above-mentioned corduroy.

Five minutes after ignoring the advice of the White Steamer man I had a small blow-out, caused by using an old casing too highly inflated. Getting the bull-dog slugs to let loose, and putting on the extra tire of my equipment, required a full hour's work. It was eighty something in the shade and I worked in the sun. These troubles conspired with a loose radiator hose to prevent my going more than 8 miles by 2 p. m. of the second day. Yet I deserved the trouble caused by the leaky hose, for I had had notice, as runs the phrase imputing negligence, on a previous run, of the insecure clamp and its hair-trigger propensity to drain my radiator.

Seven miles from the ferry I passed the upturned (then righted) car of Prosecutor F. J. Heney, which had rolled down 20 feet of a fresh sandy fill-in. A pile of fir boughs lay across the lower end of this embankment, and one of the twigs struck the underhanging stop-cock of my radiator and let all the water out by the time I had reached a bridge 200 yards beyond. Being without a bucket, I had to empty my carbides on a newspaper and twice clamber down 100 feet of a precipitous, densely undergrown gorge to get water enough to prevent my engine from overheating before I could reach a more accessible supply. Then, before I had gone a stone's throw, the pleasant road jarred the loose hose completely off the radiator pipe and spilled all the water I had lugged up from the ravine. I smiled not, nor was I silent, and my language vouchsafed no relationship to

Job. By what I then thought the kindly ministration of some overseeing power of compensation, I soon found a small pool in a quiescent brooklet, and from it I filled my tank. I put as tight a garter on the radiator's hose as I could with common wrapping twine. I have since learned many of the pronounced uses of hay wire, and will hereafter carry a good supply in my repair kit.

Near the town of Castlerock I came to another hill of the erectness of fried eggs. It was corduroyed, and among the transverse poles was a log 8 inches higher than the poles. With the low gear I poked the front wheels over the log, then opened the throttle some to get the rear wheels across, and the thud of the car as the rear wheels crossed choked down the engine. The hill was so steep that the log would not scotch the rear wheels while I let out the clutch to crank the engine. In preference to backing down the hill and making the whole ascent again, I backed diagonally into the bank at the side of the road, rolled the log out of the road, started up my engine, and managed to reach the top by letting out the clutch and on the brakes when the engine threatened to choke down, about every 4 feet. I had not gone half a mile from this widely known hill when, as a result of the incessantly rough jarring it had received, the copper bar which connects the units of the spark coil parted, broken in twain. At a nearby house a kindly frau helped me find a piece of galvanized wire, which I bent into a connector for the units of the coil.

I then had fairly decent roads until within a few miles of Kalama, where I struck a hill of marvelous erectness. An obtuse biped in the form of a contractor was grading the road to eliminate a steep, boulder-strewn hill there and had graded away the approach to the old road so that wagons and automobiles, alike, had to climb, if they could, a 40-degree slope to reach the highway. After delivering a brief philippic against any one, mutt or fool of other degrees, who would put a road in such condition I went in quest of the county commissioner, who lived in the small town. In this officer I found a man of discernment and good-roads spirit who put "five strong men," as Beaucaire says, to grading down the bank. With these five men pushing I climbed "straight up" to the old road.

For the next 12 miles I paralleled the banks of the Columbia, except when the railroad required all the valley between the river and the jutting hills, and then the wagon road was left as a thing of meagre concern to find its way as best it could over the ridges primevally marked out by geological processes. With no further trouble, other than a constant refilling of the tank, I reached Woodland at the close of the second day.

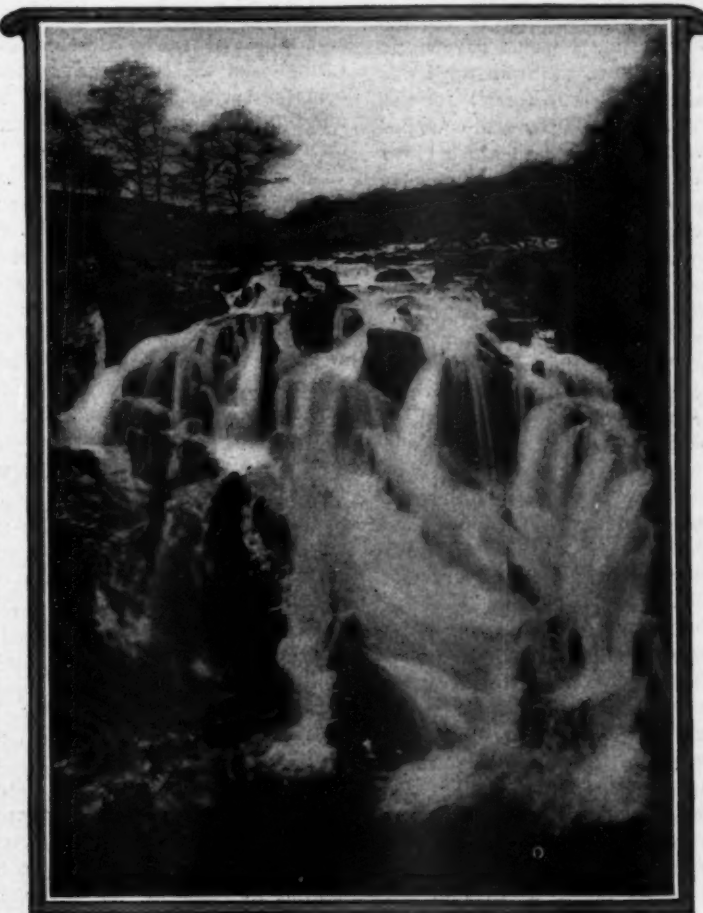
On account of high water in the Columbia River making the nearest ferry over the Lewis River unapproachable (though I tried it and got stuck in the mud for 90 minutes), I had to go eastward seven miles to the other ferry, the one at Etna. Risking the redundancy, I must say that the old ferryman there was truly a good samaritan from Altruria, for

he furnished a piece of good hose and helped me fasten it non-leakably in place of the pestiferous one which had lost me five hours out of two days, and for a compensation which would little more than tip a garage employe for cranking one's engine. This dispenser of blissful aid also directed me how to avoid the worst hills between there and Portland. The route recommended was through View and Lewisville, and about 12 miles longer than the usually traveled road by way of Lacenter. Yet I had trouble enough with two hills, having to scotch the rear wheels and start the engine several times, to the tune of blistered hands, ere I reached Vancouver at 8 p. m.

It eventuated that I was not to be singly visited with radiator troubles, for the violent jolts of the roads by courtesy, had so often thrust the water tank against the flywheel just beneath that a hole was worn through the tank, causing rapid loss of water therefrom. The radiator was thus emptied and my engine choked with heat when I reached View, a town easy to see, with its one store and no dwellings. There a young man in charge of the store (it was Sunday) brought out his soldering irons and made a fire to heat them while I took off the tank. We soldered a piece of tin over the hole and thinned portion, after I had so concaved the bottom of the tank with my foot that it could not again evince any affinity for the flywheel. Another envoy from Altruria had, in extravagant phrase, saved my life, and for what I felt was too small a recompense after I had paid him twice the amount asked. After 27 miles more of "good roads," on which I broke the leaf of a spring, I reached Vancouver just as a three days' and nights' downpour of rain set in. Late in the forenoon of the next day the rain vanished into "Oregon mist," and I went the seven miles of smoothly planked roads and paved streets into Portland. Then the rain lavished itself upon the earth till newly cut hay began to rot and the enormous, unequaled cherries of that clime to crack open on the trees. For three days the newspapers urged the weatherman for a change and the weatherman bulletined "Fair," but the rain ignored the program and kept coming as from an "exhaustless urn."

At 3 o'clock in the afternoon of the fourth day since the rain began I found the roads fairly dry and good as far as Salem, Ore., a pretty and prosperous little countrified city with wheat fields within its limits. The city was in its "glad rags" and heyday mood, having its annual cherry fair. Doubtless no finer display of cherries and berries was ever got together.

Just south of Salem the next morning I found very good roads, and from worthy reports that the same kind of highways led practically all the way through the State, I was expecting a fine ride to far south of Eugene that day, when the most prolific source of a motorist's troubles belched forth a liberal supply. My carbureter set up a noise like a pair of cats trying to blind one another with saliva. The pump joined the chorus and failed to circulate the water, causing the engine to overheat and knock. I managed to get back to the garage in Salem, where both of the



One of the Beautiful Waterfalls Encountered En Route

afflicted parts were overhauled. The pump was choked by a wad of leaves from the water I had poured in unstrained a few days before. But no evidence of disorder was visible in the carbureter, its secrecy remaining to cause the most serious trouble of my whole trip. I then started south again, but when I had gone the same three miles which I had made on my first start my carbureter spat like a Dowie flock of cats, and the engine would not budge the car, except on the low gear. I again turned back and in rampant disgust, and got "fixed up" by a good citizen who was a good mechanic, but who overlooked the salivated carbureter. As soon as he let me loose I "hiked" for Portland, hoping to there take a boat the next morning for Kelso, a town on the Lewis River just above the Columbia and about one-third the way from Portland to Seattle. I expected to make the return trip in two days, as the boat would reach Kelso about 1:30 p. m., and I had almost made Kelso from Seattle in one day. But I was told in Portland (on Friday, the day of blessings) that the boat would not leave for Kelso until Monday. Being determined not again to drive the road to Kelso, I remained in Portland, while it rained, until Monday, when the boat loaded three automobiles for Kelso. Two young men with a Studebaker and myself went ashore at Carroll, six miles from Kelso, and were in Kelso a full hour ahead of the boat. Crossing the Cowlitz River at Kelso we found the road very good to some distance north of Castlerock. Here my recurring troubles took a fresh start. My car balked on a hill of easy grade. I tested out all connections and found that both cylinders were firing well enough, but that the left cylinder would not run the engine. After more than an hour's probing for the trouble's throne (for the ailment was king), a family of three came along in a touring car southward bound, and the man and son, in their goodfellowship of the road, spent another hour helping me to ascertain that about a third of the left exhaust valve had broken off. Detaching it, I rode with the accommodating family to Castlerock, where I took the ferry across, the family continuing south to Kelso. The only machinist in Castlerock did not have his lathe set up and informed me that I would have to go to Kelso to have a valve made. If on time, the train for Kelso would have gone 15 minutes before, but, luckily (once) for me, it was an hour late. I took the train, engaged the well-equipped machinist in Kelso to make a valve, went to supper, which I was too fatigued to enjoy, returned to the shop and got the valve after a short wait, bought a ticket for return to Castlerock on the first train, waited in the depot until it came at 2:30 the next morning, reached Castlerock at 3 o'clock, rowed across the river in a boat I managed to detach from the ferry and walked nearly four miles to my docile car by full daylight.

With oiled emery powder I ground in the new valve as best I could, inserted it in place, then had to spend nearly an hour getting the machine from the slippery fern patch on the road. After some five miles of smooth going a wet red hill put a check to the steadiness of my speed. After three attempts on low and four on reverse gear I climbed the hill. The next hill, a few miles beyond, was still steeper, with the steepest part corduroyed and a stream of more power than grandeur trickled over the logs, causing my rear wheels to spin. At a nearby house I borrowed a shovel and bucket and carried gravel and dry dirt until the road was so that the wheels would take hold.

I had no more trouble with hills, for after about twenty miles of road, embracing bumpy corduroy, mud holes and deep sun-baked cattle tracks for most of the distance, the carbureter gave forth a belated Fourth-of-July sound, and both cylinders were without compression. The trouble was beyond my power to diagnose, so I at once sought help in the form of a wagon and team to tow me 14 miles to Chehalis. Expressing my willingness to pay well for it, I found a farmer with a light wagon and good team who let his son tow me over 14 miles of splendid road while I sat with one hand on the steering wheel, the other holding a handkerchief over my mouth and nose to shut out what I could of the dust. It was a lovely ride; but I persuaded myself that I was—sure to get where I started this time.

The mechanic at Chehalis found both washers jarred off the intake valves. This was done by the carbureter's holiday activity. That and a loose engine part was all the trouble he could find. Still the carbureter kept its secret like a Mason. After a night's good rest and good meals (the first since Portland), I started for Tacoma. When half the way and going well, but with diminished power of the engine, a rear wheel picked up a ten-penny nail head first. Two lads helped me spend over an hour trying to pump up an inner tube in which a broken spring, stowed in the car with it, had bitten a hole as big as a bean. I then started on a flat wheel to run five miles, but stopped and put in another extra tube. As a passenger from there to Tacoma I carried a man who had rendered some assistance and whose presence was a desirable offset to the likelihood of more trouble, for "croaking" points were getting numerous.

We made Tacoma at a good speed, and at my passenger's house we enjoyed a good dinner, and I left for the 41 miles to Seattle. As I reached the long hill about seven miles out of Tacoma my carbureter again got miserly with its gasoline, and I had to climb most all the way on low gear. After crossing the hills I discovered that the tire which I had inflated a few hours before was flat. Its flatness had likely caused the hard pulling up the hill. Caring not a whit for tires or any of the other adjuncts of my Pandora's box car, I went the next seven miles on the low gear and flat tire. Having expected to reach Seattle by 10 p. m., I crawled into Auburn, almost half way, at 12:30 a. m.

By 11:30 the next morning I had patched an inner tube and so adjusted the carbureter that I could run on the high on the best level roads. Then, when within one mile of the condensed-milk town of Kent, the carbureter put a quietus to the engine, the while I rested and ate a box of strawberries bought from the Jap pickers there. Cranking my engine, I ran but 100 yards when the gasoline gave out. By telephone I got a mechanic to bring a supply from Kent and we went in on low gear to his garage. Taking off the carbureter and pouring it full of gasoline, he ascertained that the cork settled too far down on the valve spring—that the cork was log-soaked, as he termed it. He so bent the spring as to overcome the trouble, and I came the 18 miles into Seattle at a rate that our Legislature recently declared an inhibited speed.

So ended the trip.

"Gone Some" would apply to my car, pocketbook, and self. Oh, the checks I drew; Oh, the gold I "blew" bringing my run-about through those ways called roads.

As a pleasure jaunt, of course, the trip was not worth while, but as an argument of the need of good roads—half-decent roads—it was most convincing. And here's a wee hint to automobile makers: A good road from Seattle to San Francisco would do more than oceans of advertising to insure motoring its share of popularity in this domain, and is quite a necessity to that end.

KENTUCKY CLUBS WORK FOR BETTER ROADS

LOUISVILLE, KY., Nov. 1.—In line with the growing sentiment all over the South in favor of better roads is the local automobile club's strong stand for State aid in highway construction. The roads in a large part of Kentucky are in very poor condition and badly in need of repair. Under the present laws this work is left to the individual counties, many of which, especially in the mountainous districts, are too poor to devote any considerable sum for the purpose.

To remedy this state of affairs, the Bosworth-Wyatt amendment has been proposed, and will be voted on Tuesday. Its purpose is to remove the constitutional obstacles to the appropriation of State funds for road-building. The amendment has been indorsed by commercial organizations and a practically united press. In response to a letter from Senator Bosworth, who is president of the Kentucky Good Roads Association, resolutions in favor of the amendment were adopted at a special meeting of the board of directors of the Louisville Commercial Club, and the Louisville Automobile Club is, of course, in favor.



EASTWARD the Motor Parkway will ultimately reach as far as Riverhead, if it does not actually go to the extreme eastern end of Long Island. For the present, however, the plans call for its construction as far as Lake Ronkonkoma, to which point the land has been secured. This vast undertaking is one which should interest others than those immediately concerned with it, since the work will be so thorough as to make it, when finished, a model for road builders of the better class all over the world.

In a great work of this character, the difficulties to be overcome are many and various; the necessary financial work preparatory to the actual raising of money must be completed; the money itself raised, land obtained at the least possible price and with the least possible friction; roads to cover this land planned; contracts let, and work started. Beyond all that, there are many petty points to be cared for in the letting of the contracts, the prosecution of the work and in many closely allied things.

More than all this, it is important that the contracts go to those contractors who will prosecute the work with the greatest vigor, since, in the present work at least, the element of time enters to a large extent and it is desired to finish the work as at present planned in the least possible time. So the contractor must be selected with this idea in view as well as from a full consideration of his ability to put onto the work the number of men and teams to push things along as swiftly as is desired. When all this has been done, and followed up continuously so as to make sure that the good work will continue, the road is in a fair way to assume shape as such.

The position just sketched out is the one in which the promoters and management of the Long Island Motor Parkway finds itself in to-day. The pictures above give some idea of the work as it is being pushed along. To depict this in words as well as the pictures above would be to tell an interesting story.

Much of the ground which the parkway is to traverse is now covered with timber, tall and stately, if not actually virgin forest. This must be cut down, but since the land owned is but a narrow strip, a little more than the width of the road, care must enter into the cutting of this timber. The reason for this is not alone the value of the lumber, which the trees represent, but also the matter of trespassing on another man's land.

Then, when the trees have been removed and disposed of, the roots must be pulled out of the ground, so that the latter may be run over and plowed up by means of horse-drawn gang plows. This removal of the stumps is no easy task either and one in

which some element of danger enters, for frequently

dynamite must be used to get out all of the stumps and roots.

Back of the teams which grade and fill come more teams with broken stone, from which the real foundation is made. This is spread on roughly by wagons, after which gangs of men spread it to accurate levels. The first appearance of self-propelled machinery is noted at this stage, with the appearance of the huge and ugly rollers. They roll the leveled stone to pack it hard.

Wire netting is spread over the surface of the rolled stone to act as a binder. Then the large moulds for the cement must be constructed and set into place to limit the movement and extent of the nearly-liquid cement until it has set.

Coincident with this must come the appearance on the busy scene of the mixing machinery for the cement, as this work is not economical when done by hand. This would seem to close the story, but the cement must set, after which the molds are to be removed and bad spots, if any, in the surface must be removed or filled by the use of grout, which is but cement in a very thin liquid form. The cracks between the adjoining blocks of cement are similarly filled, so that the whole finished surface is as smooth as the proverbial billiard table.

The second section of the Long Island Motor Parkway was opened to the public on Nov. 1. The new section is about half way between Broadway on the north side of the island and the Jericho Turnpike in the center. Its general direction is east and south, and is nine miles long, which, with the eleven miles previously opened, makes the total completed length of the parkway twenty miles. The new western entrance of the parkway is located opposite Deepdale, W. K. Vanderbilt, Jr.'s estate on the Great Neck Road. The parkway is being extended to the east from Bethpage Lodge, the present eastern terminus to Lake Ronkonkoma, a distance of thirty-two miles, on which a force of 400 men is employed. This latter portion will probably be opened next Fall, and will complete the entire distance of fifty-two miles, as now planned.

THE PATRON SAINT OF AUTOMOBILISTS

By FRANCIS MILTOUN.

MASCOTS and good-luck emblems have chiefly been wanting among automobilists. The writer had a friend who lived in Paris and went in for motor boating on the Seine, who had a Greek bronze of Narcissus which he had incorporated into a figurehead for his boat. It was a dainty sentiment, but incon-



gruous. Still less does the automobile to-day, a sort of a cross between a decapod locomotive and a submarine (certainly no one will say that an automobile has really beautiful lines) lend itself to symbolic embellishment.

The Chenard-Walcker models for this year have had an eagle with outspread wings, cast in bronze, capping the radiator inlet, and the Royal Automobile Club of Great Britain and Ireland grants its members the privilege of having their radiator stoppers cast in the form of a royal crown, while the German Emperor has a similar emblem

topping off the lamps and other accessories of his luxurious Mercedes and Benzes. But, all the same, it is forcing things a bit, like the gaudy red paint and brass trimmings of the before-the-war locomotives in America.

These interpolations are as nothing compared to what certain soi-disant patriots from America touring in France sometimes perpetrate. I have seen, at Aix-les-Bains, a "Teddy bear" as big as a Newfoundland dog perched on the canopy top of a big touring car; and a couple of square yards of American flag streaming out from behind is no unusual sight on the cars of

those insatiate mortals to whom notorious conspicuousness is fame. Needless to say, they will pay for their fun when it comes to settling up their accounts, whether it is in souvenir post cards at two sous apiece—which every one else buys for fifty centimes a dozen—or cocktails at thirty sous—which is only a little Vermouth poured out of a bottle, with a dash of bitters in it—the same that a Frenchman at the next table gets for forty centimes.

One thing is perhaps permissible, and that is the adoption, if one chooses, of the inconspicuous plaque now so frequently seen on the dashboard of an automobile in France depicting the good Saint Christopher at his traditional occupation of safeguarding the traveler on his way. It is a pretty custom and in keeping with the spirit of things. The plaque, in bronze, silver, or silver gilt, costs anywhere from ten francs to a hundred and was originated by a "Boul' Mich" jeweler of the Latin Quarter, from whence so many things of taste come into being.

We are "traditionalists" all of us, say the French, and we are, no doubt; each of us has his favorite legend, motto or saying, and, though the holy Christopher may have little or nothing to do with the mechanism of an automobile, he, of all the saints in the calendar, has ever been the best friend of travelers. Saint Fiacre could not be especially favorably disposed toward travelers setting out on a journey by automobile, and Saint Peter, with his ever-present sharp-pointed stones, is too suggestive of destruction of tires. Of Saint Clou (*quel horreur*) we will not speak; and Saint Denis, who lost his head, is the last person to be taken as an example by a chauffeur. There is, to be sure, Saint Eloi left, who was a blacksmith; he might be useful at times, fault of a better, but he was of a doubtful sobriety. In brief, then, Saint Christopher, by every right, is the ideal saint for the automobilist.

Saint Christopher is the ideal traveling companion; he never complained; he never spoke, except on suitably-called-for occasions, and, above all, he brought good fortune and timely aid to the weary traveler. All hail, Saint Christopher!



Transferring Trout from the Automobile Tank to a Can in the Epicurean District of Paris.

In an epicurean district, such as the Etoile quarter of Paris, freshly caught fish are a necessity. Unfortunately, trout streams and breeding beds cannot always be located near large cities, and although fish may be plentiful it is difficult to deliver them in the center of the city with all the freshness demanded by refined tastes. The railroad is far too slow for this class of work, for the Etoile clientele not only demands its fish fresh, but alive. The automobile, therefore, had to be requisitioned, and has very successfully solved the problem by bringing a daily supply of live trout from streams one hundred miles away to the doors of the fashionable hotels and elegant apartments of the Etoile quarter.

NO final word about the value of the automobile will be said until the people of the Middle Western States have risen in their places to address the chair.

Among them, of course, with his accustomed modesty and shrinking timidity, will be the man from Kansas—this citified countryman, this countryfied townsman—who, like the sunflower "the badge of all our race," equally at home in city street or country roadside—not only looks with unblinking eye at the sun of progress, but turns occasionally to observe the landscape.

This man may speak some day on the previous question, and not in flower language either. His words ought to have some weight, for out here in Kansas are all conditions favorable to the working out of the automobile question; long, straight roads, interminable distances, an out-of-doors worth while, and a people not only predisposed by heredity and cultivation to gadding about, but given to commercializing their pleasures. E'en

"Though on pleasure bent
He had a frugal mind."

It is not surprising, therefore, to see automobiles in



THE AUTO AS SEEN BY THE MAN FROM KANSAS

By E. J. Graham

great and ever increasing numbers scudding along our paved and tree-arched Kansas streets and past our league-long fields of corn and wheat.

"If that machine had a yoke of oxen and a tar bucket it would look like an old-time prairie schooner," said a pioneer.

"Prairie scooter, you mean, Grandad." "That is what she does, any way," was the answer. It voiced the case.

In justification of these remarks reference is made to the following extract from a report of the Kansas State Tax Commission, published in the *Topeka State Journal*, Aug. 3, 1909:

"In going over the lists of personal property in Kansas it was found this morning that at the present time there are 4,516 automobiles in the State. Last year the taxes took in only 2,156 cars. The value of the autos this year is stated at \$2,619,300 compared with only a million last year. One of the surprising facts is that most of the motor cars of the State are owned in the central and western counties, and the farmers are at the top of the list."

But does there not exist in the West any prejudice against the automobile? Naturally, yes. Prejudice, prayer, and profanity have been the running mates of public carryalls on their first trips since man ceased going afoot. These vanished, however, with the convincing of the people that the vehicles were safe, pleasurable, and useful.

Steamboats passed through the days of scared and praying negroes on shore and swearing mate on deck unto eminent service to valley folk. Locomotives have long since tooted past—where, pitchfork armed, upon the right of way

"The embattled farmer stood"

—to comparatively safety and pleasure in railway travel. To quote a train advertisement: "He who rides may read" at dollars and dollars per read. May even ride, read, sleep, dine, or die simultaneously. Pay the porter, and he does the rest.

But this new machine of ours, called variously as you ride in or jump from before it, "a buzz wagon," a gasoline "buggy," a "joy" or "devil wagon," this automobile—has it no foe? Yea, truly, like the old-time prairie schooner it has a Man with a Musket. Unlike the old-timer he does not ride, but takes aim at the flying machine from the roadside fence. Prejudice? Yes. Prejudice a plenty everywhere against the automobile.

Why? Three reasons. First: the automobile has been heretofore too exclusively a pleasure vehicle; not a useful one.

Second: it has become the greatest death-dealing machine in the world. Third: the absolute indifference of some drivers to the fate of persons injured.

What must be done? Three things: The auto must be adapted to the business uses of a busy people, as well as to the pleasure excursions of the idle rich. It must cease to be a "battle wagon." Last and, consequently, Western people must be reconciled to its universal use.

Nature has already done much to adapt her subjects to the demands of the auto. Our old hens have developed wings on their feet—Mercury-like, that they may rise to the occasion, so to speak, when caught red-handed—or red-footed, to be more accurate—in following their occupation of running for rods down the road ahead of the machine, the chauffeur of which, too far from his Presbyterian church to get out his letter, that he might do full and complete justice to the occasion, is swallowing to the point of explosion all sorts of unsayable things. Playful Western puppies are learning to respect the auto,

and so seldom do they annoy the passing auto with that postlude of thrilling

yelps with which ancient Fido went to his untimely reward.

Our respectable farm horses no longer indulge in unexpected comic valentine antics at scent of gasoline. The pedestrian, too, is acquiring eyes in the back of his head.

We all know that many of the evils referred to are passing, or never existed, in the West. We all know, and are very glad to say, that no more considerate, intelligent, free-hearted man ever took his neighbor out to ride or stopped to pick up a hurt puppy in the road than our average Western autoist. Long life to him, say we! May his gasoline never give out, may he bowl gaily up the hill of life, and coast softly down the other side into the garage of serene old age!

But before he goes we wish to speak to him a minute. He has some work to do, this man whose wealth, power, and influence are counted with his generosity.

Here is a part of it: If he would see public prejudice against his class entirely disappear, he must assist us in controlling the speed maniac—the man who, perfectly safe and considerate while driving the family Dobbin, is transformed at touch of brass lever into a "high gear" fiend, indifferent alike to the rights on King's Highway of trundling babyhood, jogging old age, or walking poor. This man must pass from our midst, and our good autoist should assist at the demise or transformation. The published statement of a Western motor club that would assist in detecting and prosecuting its own members who violated the speed limit is a case in point. Public prejudice disappears rapidly under such treatment.

Our good autoist has still another chore to do, if he would totally disarm public prejudice. His machine has been used too exclusively by pleasure seekers to make it popular with those to whom leisure and pleasure are denied. The toiling, digging public has unwittingly confounded the innocent auto with its laughing, sometimes jeering, pleasure-seeking burden.

What's the remedy? Set this great, upholstered, insolent-horned fellow to doing the world's work. Let the auto haul and peddle and pull loads; then will the people shake its lever with a brother's grip and accord it peerless precedence on the highway. Another case in point is that of a Kansas farmer. His

auto is a part of his working outfit. In it he goes to market, to mill, and to fair. Little prejudice exists in his community against the auto. Little prejudice would exist anywhere if the machine were not only the people's pleasure car, but their business vehicle as well. We wait the early day.

Another way in which this good autoist, to whom we referred several miles back, may serve his State and self is in organizing State-wide motor clubs, such as are enjoyed in other countries, the members of which are devoted to touring the country over a finely constructed and popularized system of good roads.

What the Universal Use of Good Roads Would Do

As this is not a report of the Roosevelt Country Commission, only two effects will be given here. First—Sectional differences would be overcome. If oil men would take a run through the short grass country, if corn men journeyed thus through the wheat belt, it might not take half a session of the State Legislature to perfect an organization and get down to *legismaking*. Second—These good roads and the universal use of them would do more than anything else to break down the barrier between city and country life. Away with that invisible, unreasonable thing called "The corporation line," that depopulates our farms, crowds our cities, and saps our country's strength! Let the only perceptible difference between city and country homes and people be that of distance, not of kind or quality.

Send out along these auto roads city people country-bound to discard inconsistencies of dress, undue restraint of manner, unashamed ignorance of common things, to learn something of the joy of out of doors; of the beauties and blessings of country living, and the work and worthiness of its people. Then "Edythe's" wigwam headgear and "Chawley's" pancake caput cover might disappear, and both young people refrain from telling their cousin Alfalfa Apple-seed what they know of the milk weed as a dairy by-product.

Send out along these roads more and more, the country people to learn, as have our Western farmers, that the automobile

annihilates distance; that neighbor, theater, church, and school are now ten or twenty minutes away, as they say in Boston, instead of as many miles, and lo! country life is changed in the twinkling of an eye or the tooting of a horn from loneliness to companionship, from unlikeness to likeness in all material things, from a slavish grind to inspiring effort.

Even the farmer's wife who remains at home may from her kitchen window catch a glimpse of a new spring bonnet dashing past which may be the inspiration of her own Easter headgear; although the creation's artistic shape may be molded from clothes basket or milk crock, she smiles more sweetly on John when he comes in to supper.

Send out along these roads a tallyho load of college boys, waving their gorgeous pennants and emitting barbaric yells. They might scare the calves and colts to death, but they would bring trailing back to the college door many a farmer boy.

Break down the barrier between city and country life. No merchant should be patronized who keeps a special line of goods for the "country trade." No milliner should prosper who offers differentiating impossible hats to country girls. A clothing store should be closed by the police that wilfully and maliciously sells a country boy a coat that marks him as "Rural Route No. 3," ten miles out, as plainly as if 'twas chalked on the back of him. "Don't take the boy off the farm" has been the plea for a decade. There is only one answer to that: "Take the farm off the boy." These auto roads will do it, are already doing it in our State of Kansas, U. S. A.

When all our careless chauffeurs are deported; when all our gumbo roads are Roman highways; when all jayhawkers go a-motoring, a-marketing, a-journeing to and fro—then shall our modern prairie schooners, 1910 model, shorn of prejudicial opposition out here in this land of freedom, of business, of roads, and of distances come into its heritage of universal use.

These things are but visions of a wakeful slumber, do you say? Maybe so, but you get the time extended on your Western Homeseekers' limited life ticket, and wait and see.

THE AUTOMOBILE CALENDAR

AMERICAN

Shows, Meetings, Etc.

- Nov. 6-13.....Atlanta, Ga., Auditorium-Armory, National Automobile Show, auspices of National Association of Automobile Manufacturers. Samuel A. Miles and Alfred Reeves, General Managers, 7 East 42d Street, New York City.
- Dec. 31-Jan. 7....New York City, Grand Central Palace, Tenth International Automobile Show; American Motor Car Manufacturers' Association, with Importers' Automobile Salon and Motor and Accessory Manufacturers. Alfred Reeves, General Manager, 505 Fifth Avenue, New York.
- Jan. 8-15.....New York City, Madison Square Garden, Tenth National Show, Association of Licensed Automobile Manufacturers.
- Jan. 17-22.....Philadelphia, Second Regiment Armory, Automobile Show. J. H. Beck, Secretary, 216 Odd Fellows Building.
- Jan. 24-29.....Detroit, Wayne Hotel Gardens, Third Annual Automobile Show, Detroit Auto Dealers' Association. John Gillisple, Manager, Hotel Tuller.
- Feb. 5-12.....Chicago, Coliseum, Ninth Annual Automobile Show, National Association of Automobile Manufacturers. S. A. Miles, General Manager.
- Feb. 14-19.....Buffalo, N. Y., Broadway Arsenal, Eighth Annual Automobile Show, Automobile Club of Buffalo. Dai H. Lewis, Manager, 760 Main Street.
- Feb. 19-26.....Newark, N. J., Essex Troop Armory, Automobile Show, New Jersey Exhibition Company.
- Feb. 21-26.....Binghamton, N. Y., State Armory, Automobile Show. R. W. Whipple, Secretary.
- Feb. 22-26.....Kansas City, Mo., Convention Hall, Fourth Annual Automobile Show.

- March 5-12.....Boston, Mechanics' Building, Eighth Annual Automobile Show, Boston Automobile Dealers' Association. Chester I. Campbell, General Manager, 5 Park Square.

- March 19-26.....Buffalo, N. Y., Convention Hall, Third Annual Power Boat and Sportsmen's Show. D. H. Lewis, Manager.

FOREIGN

- Nov. 12-20.....London, Olympia, Eighth Annual International Automobile Show, Society of Motor Manufacturers and Traders.

AMERICAN

Races, Hill Climbs, Etc.

- Nov. 6-8.....Phoenix, Arizona, Road Race, Maricopa Automobile Club.
- Nov. 8-9.....Savannah, Ga., Georgia Highway Reliability Contest to Atlanta, Savannah Automobile Club.
- Nov. 9.....Atlanta, Ga., Track Races, Atlanta Automobile Association.
- Nov. 14-17.....San Antonio, Tex., Four-Day Track Meet, San Antonio Automobile Club.
- Nov. 19-25.....Redlands, Cal., Hill Climb, Mile High Hill Climb Association.
- Nov. 20-21.....New Orleans, Annual Fall Meet, New Orleans Automobile Club. Homer C. George, Secretary.
- Nov. 22.....Denver, Col., Start of "Flag to Flag" Reliability Run. G. A. Wahlgreen, Manager.
- Dec. 29-30.....Philadelphia, Fourth Annual Midwinter Endurance Contest, Quaker City Motor Club.
- Feb. 4-6.....New Orleans, Annual Mardi Gras Speed Carnival, New Orleans Automobile Club.

SOLUTIONS OF THE PRIVATE GARAGE PROBLEM

By
Morris A. Hall

Part
3

Small Concrete Garage Correctly Located and Well-Designed Neat-Looking Frame Structure

PRICIPAL among the reasons why the personality of the owner should affect the size of the garage building, especially the private garage, is that one man can work in very small compass, while another must have a great deal of room. This was exemplified by a case which came to the notice of the writer some time ago. Two men shared a small frame garage, each having a car. The building was rather small, its dimensions having been dictated by economy as one could reason out from the fact of two men using one garage. Small as it was, there was room for both cars, each on its own side, and with about two feet all around. This sounds like a whole lot of room to work in, and was sufficient for one of the men. But for the other, it was not half enough, so that when he had to do any repairing of a fair day, he always did it outside, while on bad days he pushed his neighbor's car out and did his work, using that side of the garage for elbow room.

This explains how and why the personality enters into the matter of size, while the influence of size on the economy has been discussed previously. Summing up, then, the prospective builder arrives at the three sizes of his car, and adding to that the clearance dimension, as determined, has settled upon the inside size of the garage which he is to build.

It is important that the outfitting of the building with work benches, drawers, cabinets, and the like be planned out beforehand, since the size of all these things enters into the ultimate garage size. Thus, it would be more than foolish to figure on a three-foot clearance on each side, and then put a three-foot wide bench on each side, as that would take up all of the room, so that no work could be done inside.

As the table published last week showed, the over-all length of cars varied from 12 ft. 6 in. for a 16-horsepower car up to 14 ft. 8 in. for a 50-horsepower car, or, in round figures, from 12 to 15 feet. The width, on the other hand, varied little, 5 ft. 2 in. being the minimum and 6 ft. the maximum. Then, if the latter figure be taken, one will be perfectly safe.

Size for a Single Small Car—Now, if the car be small, and the house be figured very close for just one car, it would seem as if not less than two feet would do for a

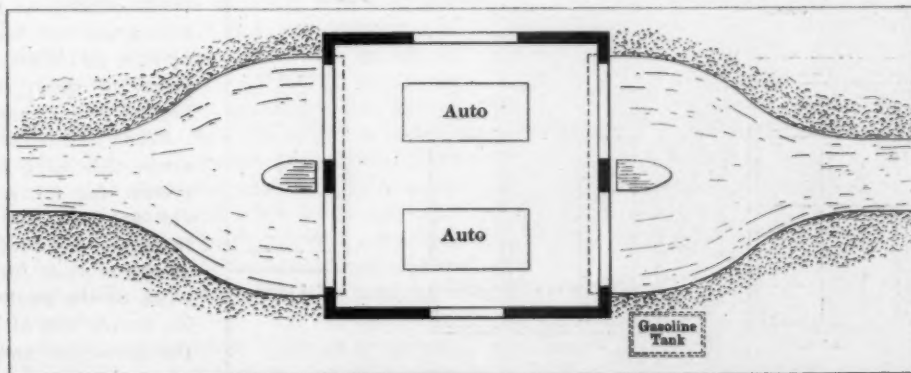
working space, all around the car. These figures added to the smallest size give 8 ft. by 14 ft. 6 in. In addition, no one would think of building without a work bench, the least reasonable width being 2 ft. Moreover, hardly any one would think of building a special building without figuring on some sort of a locker for clothes, or parts of the car not in use. If a width of 2 ft. 6 in. be left along the back for this purpose, the whole inside size becomes 10 ft. by 17 ft.

Things done always carry more conviction than mere plans, hypothetical, or possible schemes, so it will be advantageous to consider a few more private garages which have been built with economy the paramount idea, and of a size which approximates the one just settled upon as about right for a single small car. To take these up before starting on the subject of plans for building as well as building materials, and the method of handling them, then, will be both logical and of more interest than would the reverse process.

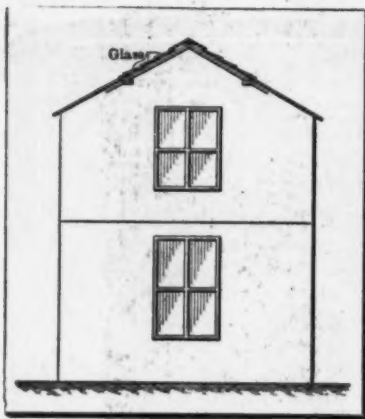
All three of the houses to be described were of wood; first, because it presented the least difficulty in construction, and, second, because it was the cheapest. The sizes vary somewhat, according to the various personalities. Thus, an eastern man built himself a garage of wood, measuring 16 by 24. Considering that he could use all of this space for himself and the car, the structure was made a story and a half high, the upper half story being utilized as a general storehouse.

Cement was used for the light foundation walls, as well as for the floor, to be described later. The building was regularly framed of dressed hemlock, and the sills, of 4 in. by 4 in. size, were bolted to the cement foundations. The outside of the frame was sided with a good grade of pine siding, regular cornice, window, and door frames being used. No sheeting was used, either inside or outside. To reduce the danger of the floor buckling, it was laid in squares, one at a time, like a sidewalk.

Intelligent Placing Saved Maneuvering Space—By locating the house some 15 feet back from the driveway, and at right angles to it, so that the car could be driven in on a single turn and out in the same way but opposite direction, the owner saved building extra maneu-



Plan of a Suggested Arrangement for Two Cars



End View of Garage Shown on Previous Page

vering space, as well as dispensing with the expense of a turntable, used by many where space is at a premium.

Doors were double and placed at the front end. The sides were lighted by means of two double-sash windows on one side, and a window and a door on the other. The loft had a window at each end. As to the utilization of the corners to the best advantage, the owner showed equally good head work. The two corners behind the doors were filled up

by the stove and a big cupboard, respectively, while one of the back corners was occupied by the stairs up to the loft.

Clear across the back end ran the work bench, on which were placed both a wood vise and a machinist's vise. The anvil was located on a low bench about 1 ft. by 4 ft., and was portable, being moved around as needed. A hand drill press was attached to one of the side wall posts, as was also a corundum grinding wheel. Overhead, a light carrier track allowed of the removal of parts of heavy weight from the car to the work bench, without much manual labor, while suitable shelves and racks were set in all over the building, in various convenient places.

Placed in the center of the floor was the pit, over which the car stood normally. In case of using the garage for two cars, the dimensions being large enough to allow this, the pit was simply covered over with loose boards, a rather heavier one being selected to come directly under the one pair of wheels on each of the cars.

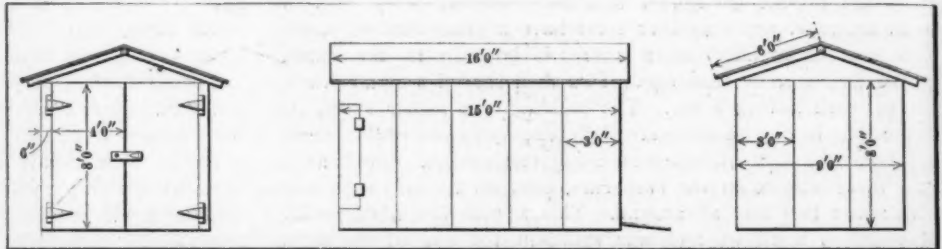
Gasoline was stored outside of the building, while the car was washed on the drive outside. No attempt was made to keep water from freezing in winter, as the owner did not use the car then,

and the water from the jackets was drained off. The whole cost of this building, as described, but without any of the equipment, was just \$200. This, however, was nearly three years ago.

Cost Depends Pretty Much on Owner's Constructive Ability—The above was one of the cases in which the owner did very little work himself. To take up another instance, we have the case of a man who built his own house complete, thus saving much money, and, as in a previous case, gaining much exercise and recreation from the process. Like several which have preceded, this man was a doctor.

The garage was built on the rear end of a city lot, and consequently was somewhat restricted as to size. The dimensions finally adopted were 13 ft. deep by 18 ft. wide, the latter being limited at that figure by the width of the lot. Since the floor space was not great, the owner built it two stories high, giving plenty of storage space. It was, as shown in the two figures, of frame construction, but set on a brick foundation. The walls were weather-boarded, and the roof covered with tin. In this there were two skylights, one on each side, while the floor was made of cement.

While the plan view shows a square house, the one as built, of course, was not square, this plan representing the owner's idea of his second house. The end doors are two in number



Three Elevations of Very Low-Priced Frame Garage of More Than Ordinary Merit

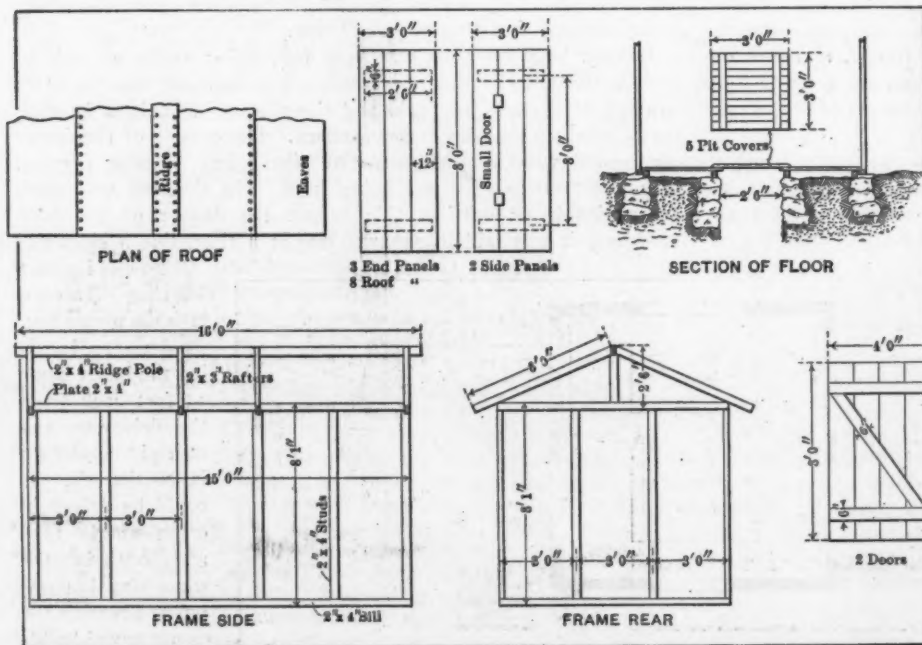
to allow of the individual entrance and exit of two cars, while the rear doors are the same, the arrangement being such that the cars came in at one end and went on through, out at the other.

In looking at the skylights something peculiar will be noticed about them. They are not regular, being glass laid flat on z-shaped galvanized iron members, without putty. This was an experiment, which has proved to be all right, keeping out rain perfectly. The whole cost to the owner was \$100, but could not

be duplicated for that, as he did every bit of the work himself, being a practical though not a practising builder.

Smallest Building at the Least Cost—What has been said before on the subject of economy has but led the way for the description of the smallest building yet described, which was built at the lowest price it has been the writer's fortune to come across. The actual size was but 9 ft. by 15 ft. outside, so that the available inside space was less than 8 ft. 6 in. by 14 ft. 6 in. While small, the owner has plenty of room, so he says, to do all necessary work upon the car.

Wood is the material of which it was made, this being built up on the panel system, for the reason that the owner did not own the house, but rented; therefore had to figure on moving the garage at some future time. The frame work, as the small constructional drawing shows, was of 2 by 4, set on sills of the same size, and surmounted by rafters 2 by 3, supporting a 2 by 4 ridge pole. Two sizes of panels were con-



Some of the Structural Details of Very Low-Priced Frame Garage

structed, one 3 ft. by 8 ft. and the other 3 ft. by 15 ft. The latter were used for the floor, two being used, one on each side of the pit. The former being used for the walls and roof, six for each side were necessary, three for the closed end, eight for the roof, two for the door, and the two for the floor, making twenty-one.

Two feet six is the width of the pit, and to cover it when not in use five panels, each 3 by 3 ft., were made with beveled ends. All material was bought at wholesale prices, being cheap Norway or Mississippi pine or hemlock. This is preferably dressed on one side to receive the paint or tar paper. The quantity of material used was as follows, this including everything:

One-Inch Lumber Required.

Twenty-one panels 8x3 feet.	Two gables 9x2 feet.
Two doors 8x4 feet.	Two door frames 6 inches by 8 feet.
Four-inch batten 140 feet.	Factory floor 150 square feet.
Two collar beams 6-in. by 8 ft.	

Hardware Required.

Two press T hinges.	Three hooks and eyes.
Two press 2x2-inch steel butts.	One clasp and staple.
One gross 2-in. No. 10 screws.	Twenty pounds wire nails.

Two by Four-Inch Timber Required.

One ridge pole 16 feet.	Two sills 14 feet 8 inches.
Two plates 9 feet.	Two sills 9 feet.
Two plates 14 feet 8 inches.	Four floor beams 14 feet 8 inches.
Four corner posts 7 ft. 9 in.	Eight rafters 2x3 inches, 6 feet.
Ten studs 7 feet 9 inches.	Two squares Ruberoid roofing.



Made-Over Barns Are Convenient, But Show Their Ancestry

As will be noted from the above, the roof was covered with a patent paper, ruberoid, of which two rolls just made the roof. To put the whole together, the owner hired an intelligent laborer, superintending the work himself. The time consumed in this was five days. The whole cost of the house finished was \$35, this including lumber, hardware, labor, but not paint, nor the tools which it was necessary to buy in order to have the laborer do the work, namely, a carpenter's level, a saw, hammer, and screwdriver. All panels were put together with nails, while they were fastened to the frame with screws.

Remarkably Low Cost Puts Private Building Within Reach of All—Figures of this sort, accompanied by drawings of the building as actually built, show that the private garage or motor house for every car, or for every owner, is within the range of possibilities, for it seems highly improbable that anyone could buy an automobile and run it, who would not be able to afford at least \$50 for this purpose. Consulting the figures given above, this is seen to be enough above the actual cost as to allow a comfortable margin for tools, paint and a few additional small parts. The sum of \$100, on the other hand, allows a very wide latitude in the finish of a house like this, enough perhaps to permit plastering on the inside or sheeting on the outside, to make it more warm in winter.

Many owners, however, look at the frame house as dangerous, as it is impossible to keep a car in a garage and not have gasoline in there also at all times. This keeps the danger of fire



Interior of Portable Frame Garage Showing Arrangement

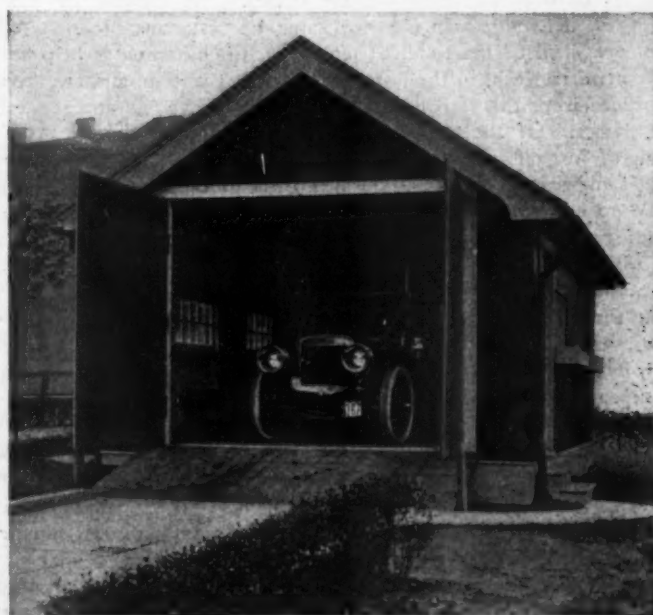
always present. With any kind of a frame construction, this ever-present danger is so objectionable that many people will go without their own garage until they can afford one of stone, concrete or other strictly fireproof construction.

Of course, all that has been said on the subject of economy both relative to size and material, as well as to economy of construction in time and money, will not interest very much those well supplied with both. For this class, then, it will be necessary to take up the more ornate and sumptuous garage, properly designed and carefully constructed.

Between the two there is the extensive middle class, desiring a modest, yet ample structure, not entirely ugly, but not wholly given over to artistic effect. For this class, and this is the class owning the largest number of automobiles of to-day, and the largest prospective class of to-morrow, the garage must possess then a reasonable amount of appearance, a maximum of utility, and with the cost a secondary consideration.

For this class it will be well to give some few examples of larger sized garages, which should, however, be of equal interest to the little fellow, since from an inspection of the details of the more commodious places, he may glean many useful ideas to be worked out in his own garage in a less expensive manner.

(To be continued)



Front View and Exterior of Small Portable Garage Above

KICKS ON "LETTERS"

Editor THE AUTOMOBILE:

[2,073]—I have been reading your magazine for a number of years past and have tried to glean some information from the various answers you print to "Letters Answered and Discussed," as I think this feature could be made a most valuable one. I wish to be put on record in saying that you, and not only you but other magazines, fall short of just accomplishing the ideal. What excuse have you for publishing two pages of answers as your edition of October 21 did, with every name or information as to the make of car discussed eliminated or designated by "a well known make"? This elimination at once destroys the "public" interest in your letters which could be of incalculable value. Why not answer each letter personally, for, without the car's make known, how can it be of interest to owners and drivers? I could point specifically to the first two letters (2,059 and 2,060) that you have used two columns in answering.

As an old newspaper man, I can guess at your reasons for this elimination, but I don't think it "pays" in the end. Manufacturers are not hiding nowadays behind poor material or poor workmanship, and I think are not afraid of such publicity. Most of the "troubles" complained of, anyhow, are caused by want of experience and not by mechanical or material deficiencies. If you can do so, I hope you will include this letter in your above-mentioned department, and let us see if others do not feel as I do about the matter, which I hope I have not handled too roughly.

JOHN W. FEW, JR.

Middletown, Pa.

If, as you say, most of the troubles complained of are caused by want of experience, and not mechanical deficiencies, it would seem as if there was nothing to be gained by giving the car name. If a man has starting trouble, for instance, what he wants to know is how to start that engine, why it won't start, and how to change or correct it so that it will start. He does not care a continental what make of car Bill Jones drives, but if Bill had starting trouble and fixed it readily, he will be interested to know what was done and how, so as to apply it to his own specific case.

Anyway, you are accusing us of something of which we are only partly to blame. As a matter of fact, few of those who ask for information under the heading of "Letters" give us the name of their car. For instance, in the issue you refer to, that of October 21, there are six letters. Of these we only had the car name of two, one-third of the total. Then, to turn back another week, in the issue of October 14, there were thirteen letters, all without car names. Of the thirteen, we had the name of just one car, one-thirteenth of the total number.

To go back to still another issue, in the October 7th issue, there were nine letters. Of these we had the car name in but one case, and that was accidentally given. More than that, we believe in all of the other cases, unless possibly the two you specifically mentioned, that the car name would be superfluous. This may be instanced thus: what good would the car name be in an inquiry for brass finish, ball-bearing applications, shipping a car to 'Frisco, making rubber cement, etc., as per the letters in October 7 issue?

In all of the letters handled for this (November 4) issue, but one gives the maker's name, and except in so far as it enables us to look up details in that maker's catalogue, which the troubled one forgot



LETTERS INTERESTING

to give us, that is of no particular bearing. In short, if, like all of the others, he had forgotten to give the car name, we would have been able to answer the question just as well, and it would have been of just as much general use as it is in the shape given. Unfortunately this letter did not find its way into this issue.

ANOTHER STARTING CRANK

Editor THE AUTOMOBILE:

[2,074]—In letter 2,047 of your Oct. 14 issue was asked a question, which I hoped would be answered more fully, as I have had the same difficulty in starting engines, and in particular with a four-cylinder air-cooled engine. Precisely as this letter indicates, the engine is hard to start, but when by some accident it starts after being thoroughly cranked, then it will start on the spark nearly every time, or at any rate, at the first turn of the crank. On the other hand, when it has run an hour or so, or if it stops, it is as hard to start as at first. I cannot believe that it is in the wiring, as indicated in your reply; in fact, I am sure that is not the case with my machine, as I have had my wiring renewed once and examined a number of times, without in the least changing the result.

Vermillion, S. D.

W. H. BEEDE.

In the issue following the one you mention will be found another letter on the subject of hard starting. In that case, as you will see by reading the letter in question (2,059) and our answer to the same, you will note that the suggestion is made that too much air has been used in trying to start, as the cold engine and cold air will not vaporize much of any fuel. By putting in a large proportion of gasoline relative to the amount of air used, the engine and air, cold as they are, are still able to vaporize enough of the fuel to start. After starting, the heated cylinders, pipes and other parts help very materially in vaporization, and the second start is easily made, even, as you suggest, on the spark a number of times.

As for a recurrence of the trouble after the machine is thoroughly warmed up, that we cannot understand; in fact, from your description of the trouble we are unable to distinguish between the first case, when "she" starts on the spark, and the second, in which the motor will not start at all.

It is just possible that some of your trouble may be due to the exhaust valve being timed wrong, although on the basis of regular running (we assume this because you say nothing to the contrary) this would seem to be rather far-fetched.

If the machine is mechanically right in every respect, the trouble must be one of two things, poor or incorrect mixture, or poor or defective ignition. We suggested the latter in our answer to letter 2,047 because he stated that the fuel system appeared to be right.

TWO CYLINDERS BALK

Editor THE AUTOMOBILE:

[2,075]—Will you please help me out in a peculiarly troublesome case of missing? I am using a Remy magneto on my four-cylinder car, also, five dry batteries to start the motor. When I test the dry batteries by detaching the cable from the spark plug, trying one at a time with the engine running, I get a ½-inch spark from cable end to plug with characteristic crackling noise from each of the four. When I switch to the magneto and test in the same manner (other conditions exactly the same) I get a ½-inch crackling spark at the two outside cylinders, but little or none from the two inside cylinders. When on the road and things get warmed up a little, conditions are better, but still it is liable to happen at any and all times. What is the real trouble? Is there any A B C treatise on the magneto?

GEORGE H. JEROME.

York, Neb.

If your magneto is of the old kind and worked through the coil on the dashboard, the trouble might lie in the coil, at least as you describe it, that is the first inference. On the other hand, if you have one of the newer self-contained coils of the inductor type, which do not use a separate coil, the trouble must be in the distributor. This is inside of the magneto at the front end, and may be reached by removing the hard rubber cover.

To be more specific, one of the contacts, or, rather, two of them, may be worn in an unusual manner, due to an unexpected flaw in the metal or something of that sort. These unusual flaws, or whatever they are, cause a poor contact at those points, so that the two cylinders connected up to them do not receive a full spark, due in turn to the impaired circuit.

Very few magneto books have been published dealing with that piece of mechanism exclusively. One of those is "The Magneto, Its Construction and Operation," by S. R. Bottone. Then, a number of books of a more general character treat of the magneto in some specific chapter on ignition. Some of these are well worth having. Among them are: "The Gas Engine," by F. R. Jones; and what will probably fill the bill best of all: "Automobile Catechism," in which are a series of questions and answers, all taking up the simplest parts of the automobile. In this latter you will find 20 pages on Ignition, 22 on Operation, and 17 on Troubles and Remedies, all of which contain much that will be useful to you. In the larger book, Chapter 3 contains 52 pages on Ignition, of which 12 pages deal specifically with magnetos and generators. Also, in Chapter 4, on Control, consisting of 47 pages, much of which deals with ignition troubles and remedies, you will find a great deal that will interest. All of these books may be obtained from the Class Journal Publishing Company, 231 West Thirty-ninth street, New York City.

ANSWERED AND DISCUSSED



GEAR BOX PLACING

Editor THE AUTOMOBILE:

[2,076]—Please advise me through "Letters" if the location of the sliding gear transmission on the rear axle gives satisfactory service, and is durable? Also, what about bearings, are plain the best, or roller, or are balls superior to the others?

Gordon, Neb.

LOYD H. JORDAN.

To the best of our knowledge, the rear axle location for the transmission, whatever its type, is satisfactory. One might argue back to this conclusion from the fact that one of the oldest manufacturers, making the highest grade of car, adopted this location for the gear box in 1904, and is still using it. More than this, at the time it was adopted there were no others on this side of the ocean using this placing. To-day, after five years of use, this company still thinks as well of it as when first adopted. In the meantime the copyists of this location number scores, and the cars so outfitted run into the thousands.

No one can state absolutely that this or that form of bearing is best. Each one has some advantage of cost, wearing quality, lubrication, or lack of the same, adaptation to special designs, or others to fit it for some particular case. Each one of the three mentioned is in wide use on automobiles.

SOME STARTING QUESTIONS

Editor THE AUTOMOBILE:

[2,077]—Will you kindly inform me as to the following through your excellent department of "Letters Interesting, Answered and Discussed":

1. Are there any manufacturers who make at present a cranking handle which will prevent the severe blow given to the arm when a back fire occurs, due to cranking with the spark lever set in advanced position?

2. I have invented a cranking handle device, which will positively prevent any injury to persons cranking, no matter what may be the position of the spark lever. Will you kindly inform me if there is any market for such a device, and give your opinion of the extent of such a market?

3. Would it pay to take out a patent for such a device, and interest capital in the same, or do you think the average automobilist would say that he needs no such device, as he never forgets to set his lever back when he begins to crank?

4. Would the automobile manufacturers be inclined to put such a device on their machines as a regular equipment?

HENRY I. LURYE.

West New Brighton, Staten Island, N. Y.

Now, as at all times, the question of a proper and safe starting device is engaging the attention of both manufacturer and user. However, the maker of large and expensive cars wishes a starting device which may be operated without physical exertion from the seat. The maker of low priced cars, on the other hand, does not want anything very expensive, although a device such as you speak of should do very nicely, as it would give the manufacturer a strong

talking point. This is a matter which has been discussed in these columns on several occasions.

As to your first question, there was a cranking device not radically different from the one spoken of, which was described in a recent issue of THE AUTOMOBILE, Sept. 23, 1909, to be exact. Aside from that, we know of nothing which answers this description.

Comment above should answer the second question, while as to the third, if you intend to make and sell these cranks, it would certainly be to your advantage to take out a patent, whereas, if you intend to sell out, it would be better to let the other party take out the patent, or else take it out yourself and sell for enough additional to more than cover the cost. This we spoke of in a recent issue, giving the Government fees as \$35, with patent attorney's fees extra.

Once more, we would refer to the comments above as answering the fourth question, also.

DETAILS OF 1910 MODELS

Editor THE AUTOMOBILE:

[2,078]—Have you at hand or will you have any publication giving a complete list of the 1910 automobiles of American make, including detailed descriptions, price, and illustrations of each?

Northwood, N. D.

H. H.

It is a little bit early for the publication of details of next year's models, but in this week's issue, elsewhere in the paper, you will find the first table of 1910 cars, this table being restricted to those cars which will be exhibited at the Atlanta show.

Later on, at the time of the two big New York shows, the descriptions and details of all of the cars will be given, just as was done last year. There is no publication that we know of which would give you this as soon. Both the A. L. A. M. and the A. M. C. M. A. publish handbooks, but these are not issued until long after the shows mentioned. More than this, these books do not include any non-members, so are not as complete, taken together, as are the tables printed in THE AUTOMOBILE.

TELLS HOW TO START

Editor THE AUTOMOBILE:

[2,079]—I have read with the greatest interest and benefit, for the past four years, "Letters Interesting and Instructive"; therefore let me contribute my mite for the relief of No. 2,059 and many another autoist who is not fool enough to lay up his car with the first frost. It is axiomatic that all cars start hard in cold weather, due solely to the low volatility of the fuel. The tyro gets busy with the nozzle adjustment and tries to correct by increased richness of mixture. This is wrong except very slightly in the coldest weather. Now, here is the remedy for balky motors on cold mornings or any

old time. Provide a priming mixture of 50 % sulphuric ether in gasoline (equal parts mixture). In starting, first prime the carburetor in the usual manner, then moisten a silver dollar-sized spot on a piece of cloth and lay over the intake of the carburetor, open throttle well and "she" will go every time; or prime through the priming cocks in the usual manner. Explanation—ether is four times as volatile (and correspondingly explosive) as gasoline.

DR. CHARLES H. MILLER.

Chicago.

The attention of our readers is particularly called to the last sentence, in which it is stated that sulphuric ether is four times as explosive as gasoline. This should be borne in mind by all those using this scheme to start the car quickly on cold mornings.

Readers who do not possess a silver dollar might try this scheme using a smaller coin, such as a half-dollar.

COST OF GLYCERINE

Editor THE AUTOMOBILE:

[2,080]—Will you please give me the address of a first-class wholesale drug house from whom I can get glycerine for use in automobile water-cooling systems, to prevent freezing up in winter. I would be greatly pleased if you would also find out for me the price of this in quantities.

Greenville, S. C.

E. F. BATES.

This inquiry was referred to Hegeman & Company, 200 Broadway, New York City, who kindly supplied the following: Glycerine is put up for quantity orders in two forms, one a 50-pound can and the other a 550-pound drum. The former costs 20 1-2 cents per pound, f. o. b. N. Y., the can being free. This makes the cost of that sized can \$10.25 plus the freight charges. By taking the larger-sized drum the cost per pound is less, being only 18 cents, but a deposit of \$9.00 is required on the drum. This deposit is returned upon the return of the drum. This form would tie up \$99 plus the \$9 deposit plus the freight charges on the full drum going and the empty drum returning. It should be borne in mind that both of these figures refer to No. 2 quality, which is suitable for the purpose mentioned, but not for all purposes where glycerine is used; being, in fact, a rather impure form, suitable for mixing with water to prevent freezing.

SUGGESTS GLIDDEN ROUTE

Editor THE AUTOMOBILE:

[2,081]—Please put the following suggestions for the 1910 Glidden tour route in "The Automobile": Start at Chicago, go to Indianapolis, French Lick Springs, the Carlsbad of America, Louisville, Abbey of Gethsemane, Lincoln Memorial Farm, which will be visited by President Taft and possibly again by ex-President Roosevelt, Mammoth Cave, which is the mecca of thousands of tourists every year, Nashville, Chattanooga, Chickamauga, National Park, Atlanta, then to New York City via the National Highway. The United States is honoring Lincoln's memory by having two presidents visit the farm, is it not fitting, and I might say, patriotic, for the A. A. A. to join in honoring the great war President's memory by having the Glidden tour pass through this section? What do you think of this route?

CLAUDE W. WILSON.

Bardstown, Ky.

There must be many others who have in mind some road or route which would be advantageous for tourists to follow this year. Such persons are invited to send it in.

NOVEL THERMO-ELECTRIC POWER INDICATOR

POWER readings of gasoline engines have hitherto been obtainable only in laboratories, at no small expense; and private owners of automobiles and motor-boats have always longed for some convenient instrument which would reliably indicate the performance of their engines. The Hopkins gasoline engine dynamometer, the invention of N. Monroe Hopkins, Ph. D., furnishes such indications, either for the complete engine or for any individual cylinder. By its use the driver can immediately determine whether his engine is developing its full power, and if it does not do so, can find which cylinder or cylinders are at fault. For determining the best carbureter adjustment, or locating troubles in the ignition circuits, the Hopkins dynamometer should prove invaluable.

The principle of the device is very simple. It has long been known that an electric current is generated by the heating of the junction of two strips of dissimilar metals, and that the magnitude of the current so generated is proportional to the temperature at the junction. The famous scientist Becquerel first suggested the use of this principle in constructing a thermometer, and such thermometers are used to-day in all places where extremely high temperatures must be measured.

Power Indicated by Thermometer—Professor Hopkins saw the possibilities of this thermometer in gasoline engine use. The gasoline engine is distinctively a heat engine. The temperature of the combustion of the mixture in its cylinders is proportional to the pressure, and consequently to the power developed. A Becquerel thermo-electric thermometer fitted in the cylinder will give an index to the performance of the cylinder. If the cylinder fails to fire, its temperature will fall off and change the reading, giving immediate indication of trouble.

The application is as simple as the principle. The two wires of suitable (different) metals are imbedded in porcelain, to insulate the electric current generated and protect them from the violence of the combustion in the cylinder, and are carried in a plug similar to a spark plug. The ends of the wires are connected to an electrical indicator, which shows the amount of the current. By a suitable switch, the indicator can be connected to any one cylinder, or to all in series. Much experimentation was necessary to develop the plugs and indicator to the point where they would withstand the high temperatures and hard usage incidental to gasoline engine work.

As the instruments must be used on widely varying engines, it is not practicable to calibrate directly in horsepower; instead, the scale is calibrated from one to 100, which may be read as per cent. of the maximum power. If the maximum power of the given engine is known, and the instrument is adjusted to read 100 when this power is being developed, then the power developed under any other conditions can be readily determined.

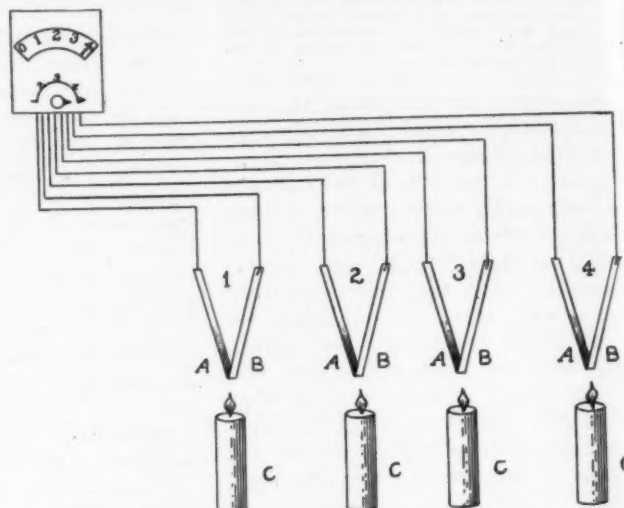
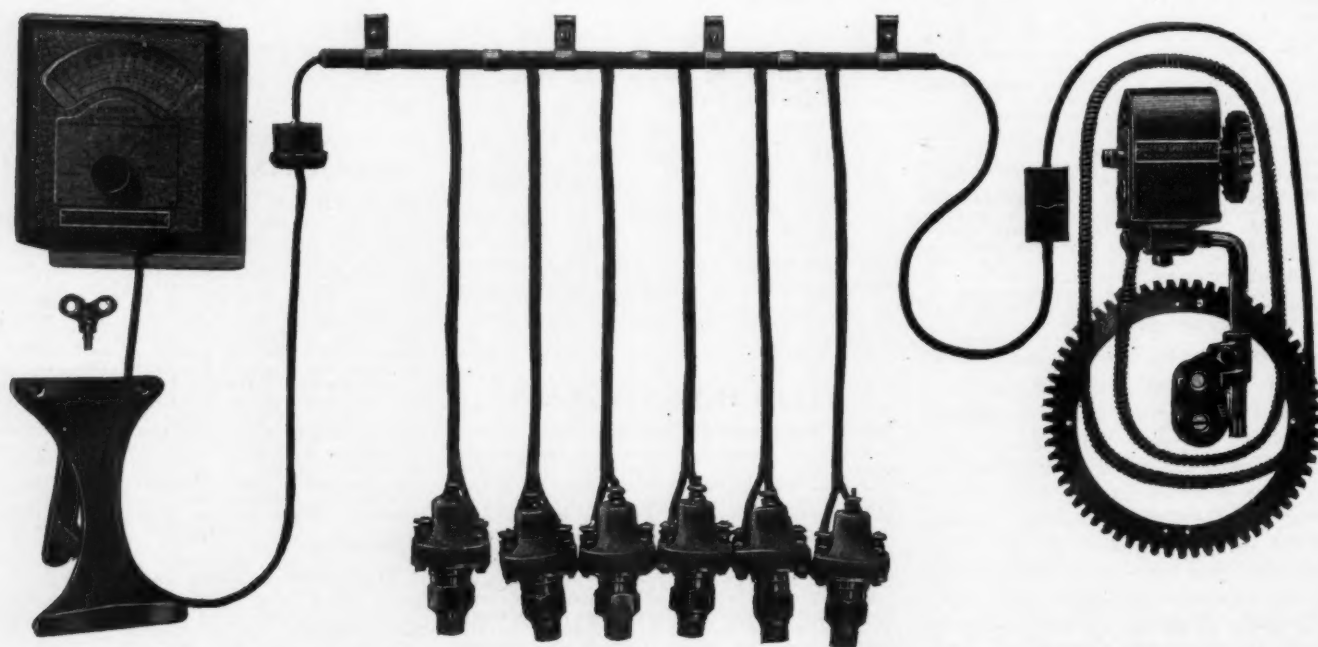


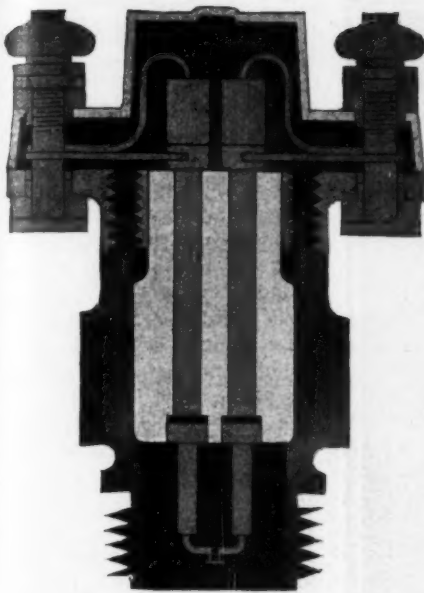
Diagram of Hopkins Thermo-Electric Indicators

A and B indicate the pairs of dissimilar metals; C the sources of heat. All four indicators are connected in series, giving their combined reading on the scale.

Application to Autos and Boats—In its commercial form, as developed for the market, the dynamometer is combined with a speedometer. The latter consists of a very small magneto, enclosed in a water and dust-proof case, which is carried on the steering knuckle and geared to the front wheel. The current generated by this magneto is in proportion to the speed at which it turns, and this current may be read on the same indicator used for the dynamometer. The switch which connects up one or all cylinders has an additional position which connects with the magneto-speedometer. This instrument accordingly has two



Hopkins Indicator Complete: Plugs for Six Cylinders, Indicator Proper, with Bracket, and Electric Speedometer



Cross-Section of Hopkins Plug

and-break ignition, or when desired from other reasons, the indicating plugs can be made separate. In this case they can be set into the cylinders through holes drilled in the valve caps.

Testing Individual Cylinders—It will be found for nearly every engine in good condition that the dynamometer indication for the maximum amount of work from a single cylinder will be about 10 on the scale—the lower of the two scales shown in the photograph of the instrument. This figure 10 for a single cylinder should be read as 100 per cent.; each single division from 1 to 10 on the scale should then be read as 10 per cent.—that is, 10 per cent. of the maximum work of which the cylinder is capable. When the engine is first started and running idle, each cylinder may show about one (10 per cent.). A well-

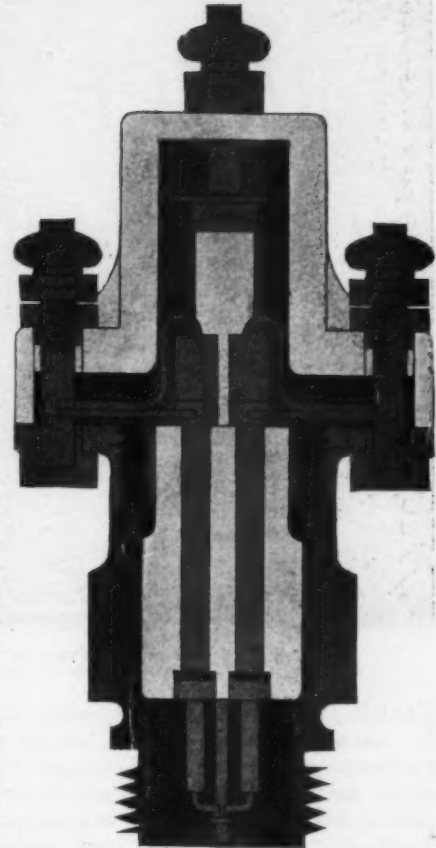
scales, one graduated in per cent. of total power, and the other in miles per hour or revolutions per minute, if for motorboat use.

The thermo-electric plugs—the little thermometers, as it were—are usually made in combination with the spark-plugs. That is, the plugs furnished with the instrument can be screwed into the cylinders instead of spark plugs, being connected to the ignition circuit on one side and to the indicator on the other. For use on engines with make-

designed gasoline engine should have its individual cylinders match up almost perfectly on the scale. If any cylinder lags behind, it is certain that that cylinder is not doing its share of the work.

Overheating of the engine, it might be supposed, would cause the plugs to give a higher reading than when the engine is running at normal temperature; but such is not the case. The plugs are insulated from the cylinder walls by thick porcelain bushings, which act as non-conductors of heat. The temperature of the cylinder walls has practically no effect whatever on the plugs; they show only variations in the temperature of the burning gases in the cylinder.

The Hopkins dynamometer and speedometer is now being produced commercially by the Electric Speedometer and Dynamometer Manufacturing Co., of Washington, D. C., under the trade name of the "Dynatak."



Same, Combined with Spark Plug

RESULTS OF TESTS OF CAST-IRON BARS

MUCH interest has been aroused in the subject of cast iron and its strength in connection with a more extended use of this metal for automobile parts. The common and erroneous idea is that this is a very unreliable metal, so that its name has without reason gradually come to be used as a term of reproach. That such is far from the real situation may be deduced from a series of tests just concluded by A. F. Nagle at Bethlehem, Pa., and reported in a paper to be read before the A. S. M. E. at the annual meeting in December.

The bars tested were normally 2 inches by 1 inch by 24 inch centers for transverse tests, and the tensile bars were 1 5/8 inch by 6 inches, turned to 1 1/2 inch diameter and threaded, while the middle portion was turned down to 1.129 inch in diameter to give exactly a square inch breaking section.

All told, some 217 pairs of test bars were tested, of which 42 are designated as abnormal, the ratio of tensile to transverse strength being either much above or greatly below the average.

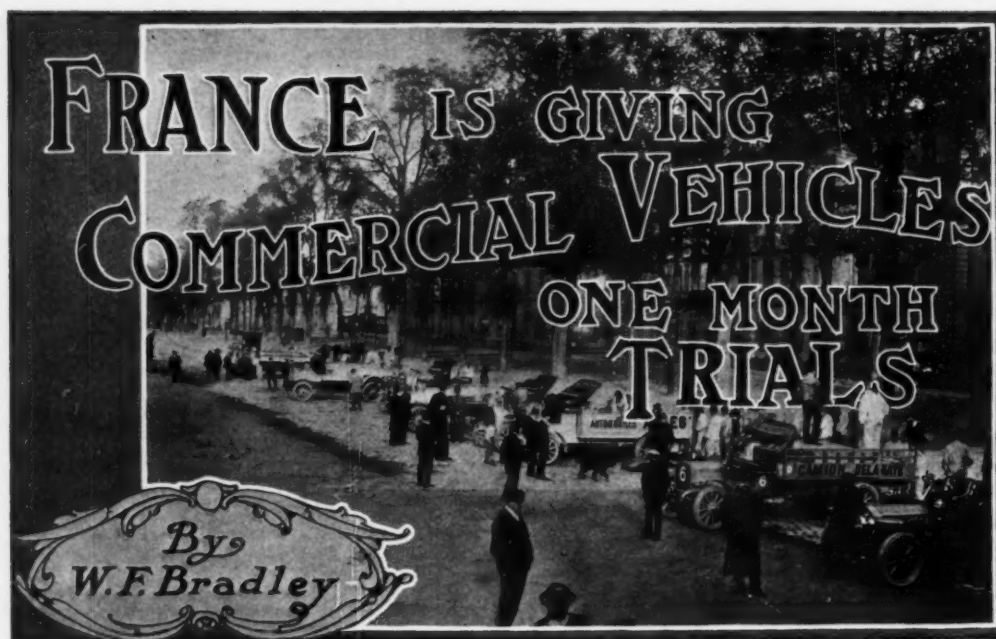
No particular care was taken to have the iron or the pouring different from what might be considered as an average case, the bars being cast from two patterns in the same mold, this being inclined about 30 deg. The iron for the bars was poured from a small ladle of iron taken as near as possible from the middle of the pour for the main casting.

Throughout the table will be noticed the unusual regularity of the figures, the differences from the average of 217 pairs of test bars taken and tested over a period of nearly two years being

represented by the two extremes of 13 per cent. low and 24 per cent. high, an unusually even and regular result.

COMPARISON OF CAST-IRON TEST BARS

Number of Specimens	Limit of Breaking Load of Transverse Bars	Breaking Loads Pounds		Deflection Inches	Ratio of Tensile to Transverse
		Transverse	Tensile		
29	2,000 to 2,200	2,065	21,630	0.43	10.47 to 1
36	2,200 to 2,400	2,289	22,940	0.45	10.02 to 1
51	2,400 to 2,600	2,523	24,880	0.47	9.86 to 1
43	2,600 to 2,800	2,756	26,500	0.49	9.61 to 1
16	2,800 to 3,000	2,894	28,460	0.49	9.83 to 1
175	Averages	2,383	23,732	0.45	9.96 to 1
Above 10 to 1 ratio					
10	2,000 to 2,200	2,088	27,143	0.41	12.95 to 1
10	2,200 to 2,400	2,294	28,530	0.43	12.44 to 1
4	2,400 to 2,600	2,436	29,600	0.49	12.15 to 1
0	2,600 to 2,800				
1	2,800 to 3,000	2,890	34,000	0.45	11.76 to 1
25	Averages	2,258	28,365	0.43	12.56 to 1
Below 10 to 1 ratio					
1	2,000 to 2,200	2,105	17,600	0.50	8.36 to 1
4	2,200 to 2,400	2,359	18,825	0.41	7.98 to 1
7	2,400 to 2,600	2,487	18,814	0.43	7.57 to 1
3	2,600 to 2,800	2,656	21,230	0.46	8.00 to 1
2	2,800 to 3,000	2,969	24,500	0.47	8.25 to 1
17	Averages	2,521	19,954	0.44	7.91 to 1
SPECIAL—Two Sets Cast in Same Mold at Same Time					
1		2,350	23,000	0.50	9.79 to 1
1		2,100	21,470	0.45	10.21 to 1
2	Average	2,225	22,235	0.47	10.04 to 1
217	All Averages	2,380	23,970	0.45	10.07 to 1



Assembling Place in the Old Royal City of Versailles

PARIS, Oct. 25—Over fifty commercial automobiles are engaged in a trial which will last one month and calls for a regularity run of nearly three thousand miles. The event is the annual industrial and military vehicle trials of the Automobile Club of France, with the army as a backer. The army influence is considerable, for the government, desirous of obtaining automobiles for transport work, has instituted a bounty system. The vehicles complying with the regulations in this contest can be offered to the public with the advantage of a bounty of \$600 the first year and \$200 each of three following years, on condition that the owner agrees to present his automobile annually for inspection and to hand it over to the army in case of mobilization. For a nation trained to compulsory military service the conditions are not onerous, while the bounty is sufficiently high to be a valuable asset to the user of commercial automobiles. The outcome will certainly be a large increase in the number of commercial vehicles in France. The record number of entries is able

The official garage is rigorously closed to all but members of the jury; in this case the closing is effective, not equipped with the usual French loopholes and exceptions. Whatever your claims, no admittance will be granted by the artilleryman on guard unless you can show proof that you are a judge. As each driver brings in his vehicle, he is only allowed to back it into its box, stop the engine, turn off the oil and gasoline and come away without a moment's hesitation. When the morning start is given, the driver can enter the garage only at the official hour for commencing the run, starting, filling tanks, oiling or washing being included in the running time.

Two sets of regulations are in force, one being drawn up by the Automobile Club of France, the other by the army authorities. Some of the vehicles are competing under the two, others have made a selection. The army insists on certain conditions which are not absolutely necessary for ordinary commercial purposes, but they do not as a rule prevent the standard type of

commercial vehicle from taking part. The military authorities have a preference for metal wheels, though allowing solid rubber, and barring pneumatics. The driver must always be protected, the width, length, and axle load are all determined, and among the running requirements are the ability to travel in convoys with and without load, to use gasoline, alcohol and benzol.

Economy is the basis of the test. During the month's running three different kinds of fuel have to be employed. For the first thirteen days, gasoline is supplied to all the competitors, and on two of those days, the consumption is officially controlled. For the following week the vehicles must consume alcohol, with one day a consumption test; and during the last portion of the trials benzol will be obligatory, with one day for the official control of con-



Marquis de Dion, Gen. Brun, Minister of War and M. Millerand, Minister of Public Works

sumption. As there will be not less than a week on each of the different fuels, the ability of the engine to work with gasoline, alcohol and benzol will be fully proved, while the official consumption test only taking place after several days previous run will give an opportunity to tune up the carbureter on the road to the efficiency it would have if specially prepared to use only one of these three fuels. Of course whatever adjustments or modifications have to be made to suit the changing fuels must be carried out during the running time. Lubricating oil, which is generally neglected in competitions of this nature will be fully taken into account on this occasion. The amount used will be controlled from the commencement to the end of the trials and included in the efficiency formula.

The final classification will be made on a ton mile economy basis among the vehicles that have made all the controls on time during the entire month of the competition. The formula is

$$\frac{T}{P} (C + C'' + K P'')$$

in which T is the duration of the runs in minutes; C the fuel consumption per kilometer in francs; C'' the consumption of lubricating oil per kilometer during the entire trials; K an estimated cost of the wear and tear of tires and wheels; P the useful load in tons, bodywork being included; P'' the total weight of the vehicle in tons. No account is taken of speeds above the maximum allowed under the regulations. Thus the only advantage to be obtained from speeding would be time to make adjustments before going into the closed garage.

During the first days of the competition the runs were in the neighborhood of Versailles, starting and finishing at the official garage. This was quite sufficient to test the abilities of the vehicles, for several of the hills in the neighborhood have grades of 10 to 12 per cent, with turns at the bottom that considerably increase the difficulty of climbing. After the first four days a run was made to Clermont-Ferrand, in the center of France, the trip being made in stages of 60 to 120 miles according to the class of vehicles. On the return, after an absence of seven days, the runs around Versailles are to be continued until November 15.

There are three distinct divisions in the competition, comprising goods-carrying automobiles, road trains, and small omnibuses. Each of these are subdivided according to load capacity. In the smallest class, with a load capacity of 880 to 1,320 pounds, only one vehicle is entered. It is a two-cylinder



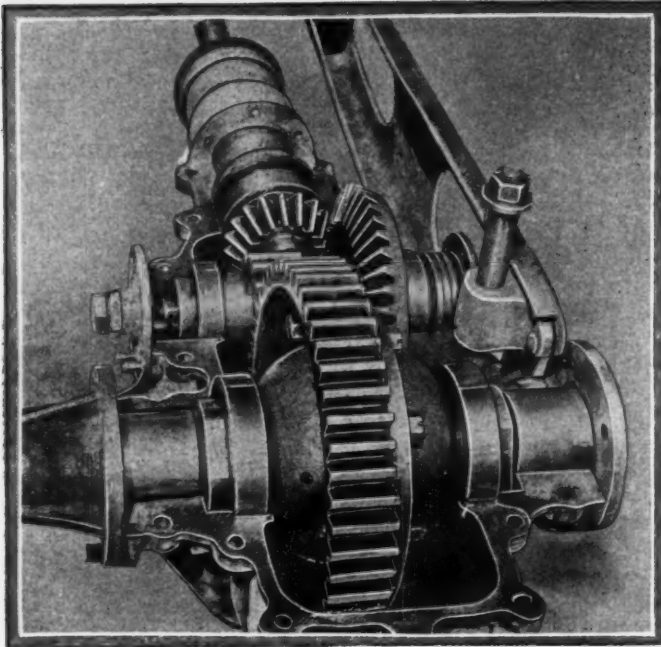
De Dion Truck Negotiating the Route Beyond Larcelles

Bayard-Clément identical, so far as the chassis is concerned, with the company's taxicabs in use in Paris. The bodywork is closed, suitable for such light trades as grocer, or baker. In the second class, carrying a load from 1,324 to 2,645 pounds, the entrants are De Dion-Bouton, Delaugère-Clayette and Vinot-Deguignand. All three have closed vans mounted on pneumatic tires. Delaugère-Clayette and Vinot-Deguignand use Michelin twins on the rear and singles on the front, all equipped with the latest type of Michelin dismountable rims. As a compressed air tank is carried for inflating tires, delays under this heading are not likely to occur. The outfit is such a one as would be adopted by a firm desirous of obtaining a fast delivery service with every guarantee of regularity.

It is somewhat of a surprise to find a single cylinder in a commercial vehicle class with a useful load of about one ton. It is De Dion-Bouton who have made this entry, their vehicle being one of the models used by some of the largest dry goods stores



Saurer Omnibus of Characteristic Type, and Two Trucks



Rear Axle Construction of the Vinot-Deguignand

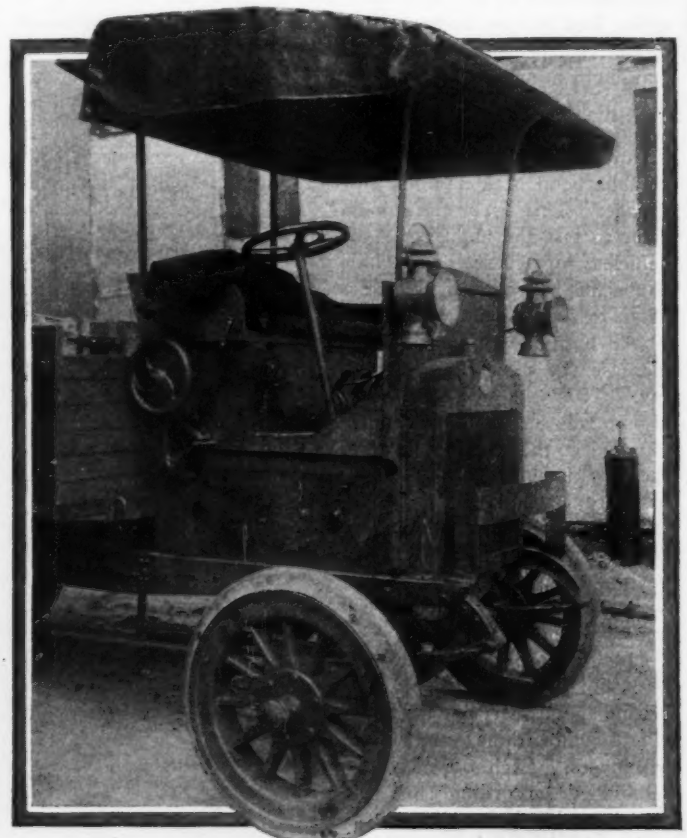
in Paris for long distance delivery service in the suburbs of Paris noted for their steep grades. As the one lugger has satisfied its commercial users for one year under normal working conditions, there is no reason why it should not come through this severe public test with highest marks. The single cylinder is carried under a bonnet that could accommodate three other units without any difficulty whatever. It transmits through a disc clutch to a three speed sliding gear set, and has final drive, as in all De Dions, by transverse cardan shafts. There are two separate axles, a solid one carrying the load, and another one, broken by the differential, taking the drive to the rear wheels.

There is also a novel feature about the Vinot-Deguignand rear axle construction. Instead of the large bevel being on the rear axle, it is mounted on a lay shaft within the differential housing, and parallel to the rear axle. The bevel gear on the end of the propeller shaft meshes with the crown bevel on the lay shaft, while a plain gear in the center of this shaft engages with a pinion on the center of the rear axle. Incidentally this places the differential exactly in the center of the rear axle. The engine on this car is a four-cylinder type of 14-horsepower with an arrangement for sending cold air into the cylinders during runs on down grades. Only Saurer and Bayard-Clement have entered in the 2,647 to 4,400 pounds load class, the former having a four-cylinder engine in one casting with an open type of body, while the latter has a two-cylinder engine of 14-horsepower driving a stout chassis with a closed body. The vehicle is mounted on a special type of cushion tire known as the Ducasble.

In the two classes for vehicles carrying a load of 4,400 to 6,613 pounds, and those taking more than 6,613 pounds, entries are numerous, these being the types of automobile required by the army. Nearly all the leading French firms are represented, the list comprising such well known factories as Delahaye, Schneider, Aries, Panhard-Levassor, Berliet, De Dion-Bouton, and Malicet & Blin. There is a remarkable uniformity about the vehicles, although plenty of differences exist in details of construction. In every case gasoline motors are employed. Steam was represented on the entry list, but at the last moment, difficulties arose between the entrant and the committee regarding the fuel to be used. Unable to come to a settlement, the owner of the steamers withdrew from the test. It may safely be said that steam is dead in France. Last year two firms appeared, but both of these have practically gone out of existence since, and the firm that entered and withdrew is a newcomer of very little importance.

There are two cases of electric transmission, but this does not change the general rule that gasoline is all supreme in France, for the Kriegers employ a four-cylinder internal combustion motor driving a dynamo, the transmission only being electric and final drive by side chains. Another point of uniformity is in the final drive by side chains. With the exception of the De Dion-Boutons, with their special type of rear axle, side chains are found on every commercial vehicle entered in the heavy classes. Engines are invariably carried forward, and although in a few cases under a bonnet are more often placed under the driver's feet, or below his seat, in order to gain room for useful load. The only novelties in engine cooling were shown on the Malicet & Blin and Berliet vehicles. The former had a plain copper-tube coil radiator, with a belt driven fan placed directly in the center of the coil of tubes. Berliet adopted a radiator composed of plain vertical copper tubes uniting an upper and lower tank. This type of cooler has been employed on the firms taxicabs, but it is the first time it has been used on a heavy commercial vehicle. A useful addition was a steel guard across the front of the radiator to preserve it from shocks. Engine control has generally been simplified to the operation of a throttle lever or an accelerator pedal operating on the intake. The sparking point is fixed and engines are generally governor controlled to prevent racing.

Constructors have been left free in the matter of tires and wheels. While the army would prefer metal bandages, they are not made obligatory, the rule being that metal or steel can be used, and an estimate will be made of the wear and tear at the end of the test. Very few risk mounting their vehicles on metal bandages. Berliet, for instance, along with two or three others, adopts solid rubber in front and steel bands on the rear wheels, thus giving, so they claim, all the necessary protection to the mechanism, while reducing cost on the rear wheels. The great majority prefer to equip their vehicles all round with solid rubber tires. Saurer, who has the only trailer in the competition, adopts rubber for the wheels of the trailer in addition to the tractor.



Berliet, with Plain Tube Radiator, Novel Guard, and Distinctive Type of Steering Gear

What the Clubs Are Doing These Days

A. A. A. TO HAVE NATIONAL LEGISLATIVE CONVENTION

In Washington, in January next, the first national legislative convention under the auspices of the A. A. A. will take place. Announcement comes from Charles Thaddeus Terry, chairman of the association's legislative board, after consultation with the A. A. A. directors.

This will be the first legislative convention of its kind ever held. The summer meeting at Buffalo in 1908 considered both laws and good roads, though chiefly devoted to the latter proposition.

Plans are now under way to invite the Governors or their representatives from all the States in the country, and in view of the increasing interest in the subject of good roads throughout the Southern and far Western States, it is believed that the delegates from these localities will be particularly large. It has been found wherever the good roads subject becomes prominent it is at once followed by a demand for better laws regarding the use of the highways. The two chief matters that will be brought before the coming national convention will be the national registration motor law and the uniform State law. The national registration act will be reintroduced into Congress by Congressman Cocks, who had charge of the bill last year, and it is proposed to secure a hearing upon the bill before the judiciary committee during the time of the convention in Washington.

A. A. A. HAS THIRTY-ONE STATE ASSOCIATIONS

Thirty-one State associations are now included in the membership of the American Automobile Association, though one of these is the Hawaiian association.

According to figures provided by Secretary F. H. Elliott, in preparation for the annual meeting the latter part of the month, the New York State Association leads with 4,518 members, the Pennsylvania Motor Federation coming next with 3,113, and the Associated Automobile Clubs of New Jersey, third, with 2,156. Six organizations have a membership of over one thousand: Minnesota, Ohio, Southern California, Illinois, Massachusetts and Connecticut. Among the large number of clubs affiliated with the national body the latest statistics show that 40 have a membership of over 100. The Automobile Club of Buffalo heads the list with 1,827 members, followed by the New Jersey Automobile and Motor Club with 1,800, while the Automobile Club of Philadelphia is just short of 1,000. The Automobile Clubs of Chicago, Minneapolis, Cleveland, Long Island and Rochester each have over 500.

PHILADELPHIANS PLAN TO SAVE TOLL

PHILADELPHIA, Nov. 1.—The Automobile Club of Philadelphia continues its good roads work despite the near approach of winter. It has just issued an appeal to automobilists generally, asking subscriptions to a fund for macadamizing a stretch of road running from the second toll-gate on the Live Lexington pike to Sellersville. When completed, this bit of good going will enable automobilists to avoid a particularly bad stretch of road on the Hilltown-Sellersville pike, and incidentally save 30 cents toll.

PITTSBURG DEALERS' ASSOCIATION ELECTS MURRAY

PITTSBURG, Oct. 25.—The Automobile Dealers' Association of Pittsburgh has again chosen W. N. Murray, of the Standard Automobile Company, as its president. The other officers are G. P. Moore, treasurer, and J. K. McKeogh, secretary and vice-president. The association is already making plans for the 1910 show, to be held in Duquesne Garden.

QUAKERS PROTEST AGAINST WILD-CAT MEETS

PHILADELPHIA, Oct. 26.—The Quaker City Motor Club does not purpose to allow future invasions of its particular bailiwick by outside promoters. A few weeks ago a combination aeroplane-automobile speed-fest was held at Point Breeze track, which, owing to a variety of causes, proved frosty, and the 6,000 spectators were decidedly sore when they filed out of the gate at sundown, having witnessed nothing more than a few mediocre match races, the aeroplane end of the meet having been abandoned owing to the high wind. At a meeting of the club's board of governors the following self-explanatory resolution, introduced by Richard Sellers, was unanimously adopted:

"We hereby enter a protest against the American Automobile Association granting sanctions to any individual or individuals to carry on a race meet such as took place on Saturday, October 18 last, at Point Breeze track, Philadelphia, for the reason that all such race meets are detrimental to the sport of automobilism, as they bring discredit to allied clubs and place the national organization in a compromising position before a patronizing public."

At the same meeting the contest committee took up the matter of Chairman Hower's recent edict compelling promoting clubs to make announcements on or before November 1 of their programs for the coming year or suffer the penalty of having their chosen dates considered of "secondary importance." As a result, it was decided to announce the following program, and put in bids for the dates specified: January 1-2, midwinter endurance run, subject to change, as the 2d falls on Sunday; April 30-May 1-2, roadability run; June 4, spring track meet; August 6, midsummer track meet; October 8, Fairmount Park race.

ENJOYABLE RUN OF BLUE-GRASS AUTOISTS

LOUISVILLE, KY., Oct. 23.—Members of the Louisville Automobile Club participated in an enjoyable sociability run recently. Starting from Third Avenue and Chestnut Street 15 cars went humming off to Fisherville over the Taylorsville pike. Dinner was served at the Blue Rock Hotel, Fishersville, and the return trip was made over good roadways via Frey's Hill and the West Point pike, arriving home at 6 o'clock. The route covered some of the most picturesque territory in Jefferson County. It is planned to inaugurate a series of such trips during the winter.

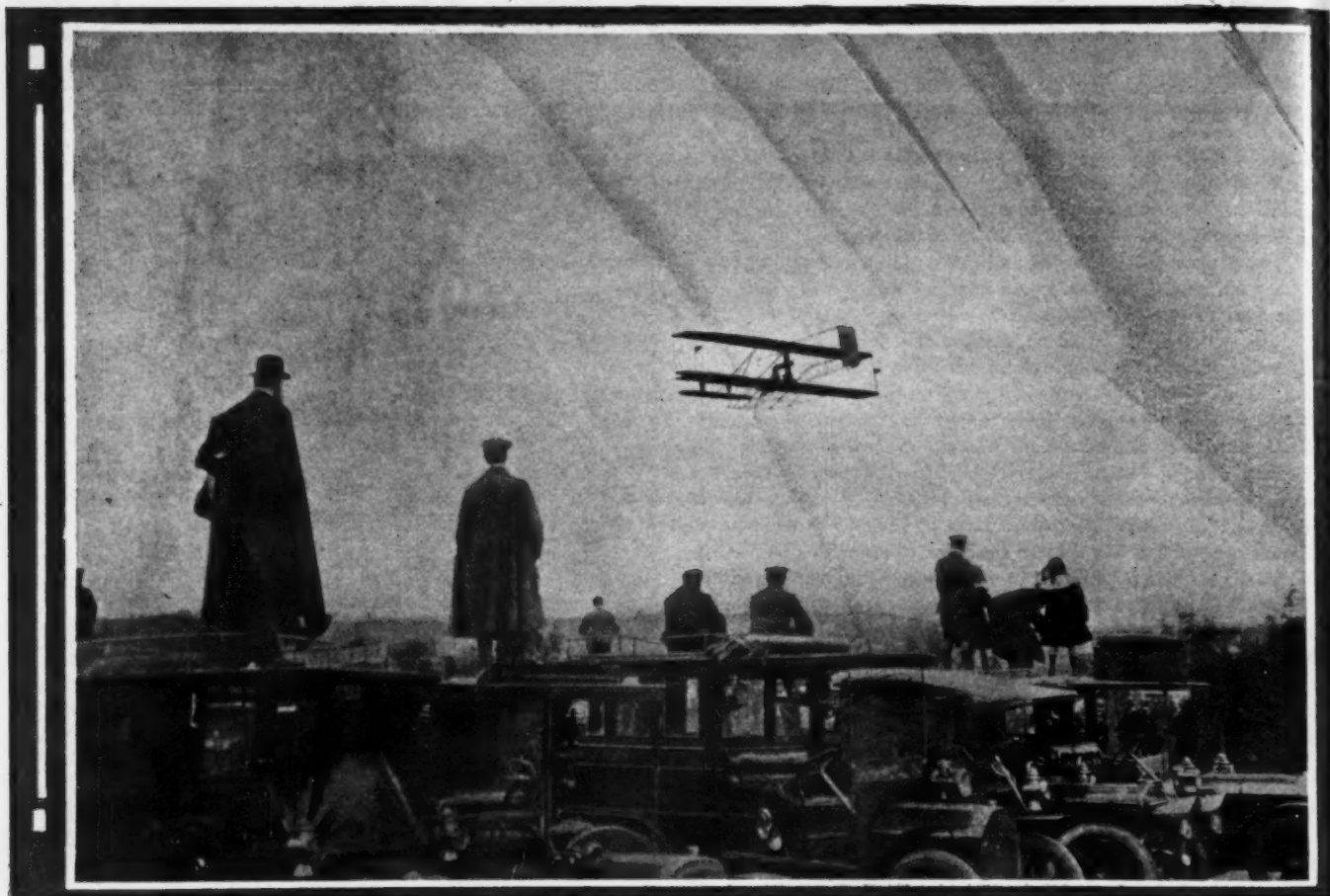
A vigorous campaign to increase the membership of the local club is under way. The membership is now 250, and it is hoped to increase the figure to 400. If this is successful the club will probably vacate its suite in the Louisville Hotel and build a home of its own.

SUCCESSFUL RACE MEET IN OKLAHOMA CITY

OKLAHOMA CITY, OKLA., Oct. 25.—The first race meet of the Automobile Association was a decided success, and most encouraging to the promoters. There were nine races, all match events between two cars except one, which was a five-cornered pursuit race. The most interesting was between a Hupmobile and a Ford, won by the latter in two out of three heats. The pursuit race was won by an E.-M.-F., which also won two match races.

BALTIMORE CLUB LEARNS ALL ABOUT STEAMERS

BALTIMORE, Nov. 1.—The last Tuesday evening of each month has been set aside by the members of the Automobile Club of Maryland as lecture night. The speakers will be prominent authorities on automobiles. At the first of these meetings Dr. H. M. Rowe, former president, discussed the White Steamer, during which he gave the club members some interesting and important technical points regarding the car.



Comte de Lambert, in His Wright Biplane, Rising from the Plain of Juvisy for His Journey Over Paris

LAMBERT'S FLIGHT WHICH STARTLED AVIATION WORLD

PARIS, Oct. 18—Paris was engrossed in its business and pleasure when the cry went up "an aeroplane." Instantly duties and pleasures were forgotten, every neck was craned, every eye was directed skywards towards the unknown aviator who had dared to fly over the most crowded city in the world. Advancing from the south, at a height of over one thousand feet, the identity of the aviator was at first unknown, and for some time the make of the machine was indiscernible. As it approached, advancing so steadily that it did not appear to move, but merely to grow larger, it was seen that it was a Wright biplane. But who could be its pilot? It was a nerve-racking exploit such as a Lefebvre would have loved to make. But Lefebvre is no more, and Comte de Lambert, the only other Wright pilot in the neighborhood of Paris, would never attempt such a supremely daring flight.

But it was Comte de Lambert. Less than half an hour before he had risen from the aerodrome at Juvisy in the presence of several thousand spectators, evidently for the purpose of making his usual mediocre flight in their presence. But, unknown to any one on the ground, Comte de Lambert had resolved to escape from the narrow limits of this flying ground hidden in a hollow. Fifteen miles away, in the center of Paris, Paul Rousseau was perched on the top of the Eiffel Tower waiting for the American biplane and the Russo-French pilot. He was the only man in the secret.

The wait was not in vain. After a couple of rounds of the field Comte de Lambert had risen to such a height that he was able to pass over the tops of the surrounding hills, had escaped to the vast plateau beyond, and was making a bee line for the Eiffel Tower, clearly visible in the center of invisible Paris. At the aerodrome, the spectators looked at the surprise written on

one another's faces. They waited fifteen minutes, then half an hour, finally dismissing the subject with the reflection that the aviator had gone beyond the limits of the field and had been obliged to descend. Even Orville Wright, who had arrived on the field at the moment Comte de Lambert shot into the air, had no idea where the aeroplane had gone to.

Meanwhile a straight course was being made for Paris. The aeroplane passed over the flat, uninteresting country devoted to intense market gardening. It approached the crowded suburbs, causing the street traffic to stop and the factories to empty.

Gasoline Into Paris Without Duty

Now it had passed over the fortifications, while the octroi officials looked on helpless at the man who was taking gasoline into the city for the first time without paying duty. Now it was over the working class district on the south side of the River Seine. Thirteen hundred feet high it towered above the Pantheon, Les Invalides, even the Eiffel Tower, the highest monument in the world, the point of which had never previously been passed by other than spherical balloons. Paris gazed in amazement, too surprised to cheer the human being who was perched high up on those wood and canvas frames hovering over the city.

The tower was reached, the aeroplane passing over the point with a margin of about three hundred feet to spare. Then it appeared to turn westward, as if about to descend on the Issy-les-Moulineaux plain, where Henry Farman first flew a circular kilometer. Now it was heading east, now it was off due south. Evidently Comte de Lambert had been seeking his bearings, which he had lost while rounding the summit of the tower, and was now bound to his shed at Juvisy, fifteen miles away.



Comte de Lambert Circling the Eiffel Tower in Paris, in His Epoch-Making Flight in a Wright Machine

Again over the working-class portion of the city, over the fortifications, over the open country, parallel with the long, straight, pave-lined road becoming busy with automobiles returning to Paris, the artificial bird winged its way to Juvisy. As it left Paris its height increased until it was a mere speck in the sky with a large, gray cloud as a background. The tower is practically one thousand feet high. Comte de Lambert had cleared this by 300 feet. As he had risen still higher, it is safe to estimate that he was 1,600 feet from the ground. Formerly experts had quarreled as to whether Rougier or Orville Wright had risen 600 feet from the ground. Now a man had beaten all official records hollow.

As quietly as he had gone away, Comte de Lambert settled down on the aerodrome after encircling the ground twice in order to decrease his height gradually. He had been away exactly 50 minutes, during which time he had covered 30 miles, and performed the most astounding feat ever witnessed in aerial navigation.

Machine Was Standard Type Wright Biplane

The machine with which the flight was made is the standard type of Wright biplane, built for the French Company at the Astra workshops. It was the first flight of importance it had made, for this particular machine had only been delivered at the aerodrome a few days before to be tested by Comte de Lambert before being handed over to its owner, a Russian sportsman. The owner must have been satisfied with the trial flight. The motor employed was also the standard type built at the Barriquand & Marre factory from Wilbur Wright's own designs. It was the same type of motor as the one with which Wright made all his early flights in France, with a few minor improvements and rather better workmanship than the Wright brothers had been able to furnish with their limited resources. The first motor, built in America, perished in October, 1908, when a connecting rod broke and went through the bottom of the crankcase. The Bar-

riquand & Marre company had already been at work and were able the next day to supply the same type of motor built in their shops. Since then this motor has been used on all French-built Wright machines. It is of the four-cylinder type, cylinders cast separately, and cooled by force feed water circulation. There is no carbureter, the gasoline being injected into a collector and aspired from there into each cylinder. Ignition is by high-tension Eisemann magneto, this being one of the changes made since the engine came into France, the original one having low tension ignition. Valves are in the head, the inlets being automatic.

BISHOP RE-ELECTED AERO CLUB PRESIDENT

With a vote of 205 to 13, Cortlandt Field Bishop was Monday night last re-elected to the presidency of the Aero Club of America, at the meeting held in the clubrooms on East Forty-second street. The somewhat limited quarters were crowded to suffocation, which elicited the oft-repeated statement that now and then a contest is a good thing in the life of any club. These were the directors elected: Cortlandt Field Bishop, Charles Jerome Edwards, A. Holland Forbes, J. C. McCoy, and Samuel H. Valentine. The selection of these five means the naming of Mr. Bishop as president, Mr. Forbes as first vice-president, Mr. McCoy as second vice-president, and Mr. Edwards as treasurer.

The opposition failed to obtain the strength anticipated, for the belief was general that Mr. Bishop's excellent services abroad this year deserved a continuance in office in 1910, when the two big aeronautic events of the world will take place in America and under the auspices of the Aero Club of America.

Strange Italian Dirigible Accident—When the Italian military dirigible Uno Bis landed near Rome after a successful voyage from Naples, Lieutenant Rovetti, in keeping the crowd back, stepped too near the whirling propeller, which struck and killed him.

LATEST FROM GENERAL MOTORS

DETROIT, Nov. 2—Michigan holders of General Motors common stock have been notified of the action of that company in declaring a dividend of 150 per cent., payable in common stock November 15. Present common stock of the General Motors Company amounts to \$5,500,000. With the dividend just declared the outstanding common stock will be increased to \$13,750,000, still leaving more than \$26,000,000 of the \$40,000,000 common stock authorized by the stockholders some time ago in reserve.

Cause for rejoicing on the part of stockholders is not alone dependent on the dividend just announced, the showing in other directions during the first year of the General Motors Company's existence being decidedly favorable.

According to W. C. Durant, president of General Motors Company, at the close of business September 30, marking the end of the year, there was a surplus in excess of \$7,000,000. Charging off all depreciation, patents and doubtful accounts, there still remained a surplus of \$1,040,000, a decidedly comfortable showing for so short a period.

During the year just closed constituent companies making up General Motors produced an aggregate of 28,550 automobiles, the volume of business represented being \$34,000,000. Forecasts for the coming year are even more favorable, Mr. Durant stating that orders have been secured for 68,000 cars, representing a sale value of \$60,000,000.

Rumors are rife regarding further additions that are to be made to the long string of automobile manufactories throughout Michigan comprising the General Motors Company. Every time news gets dull it is safe to speculate on what Mr. Durant and his associates are about to do. So far as the local field is concerned there appears to be little opportunity for further enlargement, unless it might be through absorbing some of the newer concerns. Furthermore, the General Motors Company now is in a position in its own plants to manufacture any and every size of car on the market, thereby eliminating one reason for further extensions that existed even a few months ago. However, with its past record still fresh in mind, it is not safe to predict absolutely what will happen. The Elmore Manufacturing Company is the latest reported addition to the General Motors list, but this has not been confirmed by official announcement.

FOR AUTOMOBILE INSURANCE ONLY

INDIANAPOLIS, Nov. 2—With private wealth estimated at \$50,000,000 behind it, and with an authorized capitalization of \$1,000,000, the Automobile Insurance Company of America has been organized in this city. The general offices will be located in Indianapolis, while branch offices will be located in all of the principal cities in the United States.

It is believed that the company is the first to be organized exclusively for automobile risks. The officers are: President, D. M. Parry, of the Parry Automobile Company, Indianapolis; vice-president, L. N. Littauer, a millionaire glove manufacturer of New York City and former Congressman; secretary, Ernest B. Thomas, of Rushville, and treasurer, John W. McCardle, of this city, a member of the State Board of Tax Commissioners.

REGAL WILL HAVE CANADIAN BRANCH

DETROIT, Nov. 1—Another forward step has been taken in the foreign invasion planned by Detroit automobile manufacturers, the Regal Motor Car Company having decided to establish a Canadian branch in Windsor, just across the border from this city. A new company is being formed, including the officials of the present concern and E. N. Richards, of Windsor, who will be manager of the Canadian factory. For the purpose of supplying the Canadian trade a \$100,000 plant will be established, with a capacity of five cars a day, the output to be increased as conditions warrant. A new factory will be built as soon as a suitable location can be found.

MASSACHUSETTS AUTO TRAFFIC 33 1/3%

BOSTON, Nov. 1—The results of the road census taken by the Massachusetts Highway Commission, the week beginning Oct. 10, which are being compiled at the offices of the board in this city, indicate that under normal traffic conditions on the State roads, automobile travel is not as heavy as in mid-summer, when there is much touring. At the census taken in August the tabulations and calculations showed that 42 per cent. of all the traffic was motor-driven, but from the results that have been calculated in the October census it is apparent that the motor-driven traffic is about 33 1/3 per cent. of the total. The October census was taken at 237 stations scattered all over the State, their locations being the same as in the case of the August census.

The point of heaviest motor-vehicle traffic revealed by the October census was the Saugus River bridge connecting the Lynn State road with the Metropolitan boulevard along Revere Beach. There the enumerators counted an average of 715 vehicles a day and 90 per cent. of them were automobiles. The point of least motor-vehicle traffic was in Nantucket. As this place has a special automobile exclusion law, the traffic registered 100 per cent. horse drawn. Along the Cape there were several points where above 80 per cent. of the traffic was horse drawn, and in not a few places in the vicinity of Boston the automobile traffic was from 50 to 70 per cent. or more.

The heaviest traveled point in the State according to the October census was in Beverly, where an average of 1,475 vehicles were counted each day, 58 per cent. horse drawn and 42 per cent. motor driven. In the August census the heaviest traveled point was in Lawrence, where the average daily traffic was 2,440 vehicles, 66.39 per cent. horse drawn and 33.61 per cent. automobiles. In the October census this point showed an average of 1,222 vehicles.

PHILADELPHIA SHOW IN INSTALMENTS

PHILADELPHIA, Nov. 1—Blocked in their desire to get the use of the Second Regiment Armory for the annual exhibition, the show committee of the Automobile Trade Association of Philadelphia made arrangements last week for holding that affair in the Third Regiment Armory, at Broad and Wharton streets. A trifle smaller than the Second Regiment building, the downtown structure is half a mile nearer the center of the city. The inadequacy of the building to the purpose will be partially overcome by the decision of the show committee to erect on an adjoining lot a temporary structure, 40 x 200 feet in dimensions. And even with this addition, the amount of space at the disposal of the committee will fall so far short of the requirements that it has been decided to run the show two weeks—January 15 to 29—instead of one, as originally intended.

At the end of the first week the exhibitors will be rooted out, bag and baggage, to make room for the second instalment of the show. It was the only solution of a problem which, with each succeeding year, has become more difficult.

A movement is now afoot to provide Philadelphia with a suitable building, and it is the hope of the committee, Messrs. J. A. Wister, W. J. Foss and J. L. Gibney, that the 1911 exhibition will hold forth therein. Secretary J. H. Beck has established offices at 216 Odd Fellows' Building.

DATE SET FOR WASHINGTON SHOW

WASHINGTON, D. C., Oct. 30—A meeting of the local automobile dealers was held to-night and it was decided to hold an automobile show at Convention Hall during the week beginning January 24, which is the week following the close of the Philadelphia show. B. C. Washington, Jr., who has managed the last three shows, has again been placed in charge and is rapidly getting his plans in shape. The fact that more than sixty-four different makes of cars are handled in this city would seem to insure the success of the show. Decorations will be uniform.



State Highway Commissioner MacDonald Leading the Procession at Opening of Berlin Turnpike

EXTRA ENTHUSIASM OVER NEW ROAD

HARTFORD, CONN., Nov. 1—"Obey the law," is the edict of the Hartford police, who have been very active of late in nabbing offenders on the new Berlin turnpike which was opened recently. A few days ago a New London chauffeur came through town without a front license tag. He said that he did not know that one was required. A special session of the police court was held for his benefit, as he wished to leave in the morning, and he was fined \$7 and costs. George A. Pickett, a prominent New Haven automobilist, was arrested in Maple Avenue, the Hartford end of the Berlin turnpike. He was fined \$15 and costs, and took an appeal to a higher court. The commission intends to stop those who are trying to make the seven-mile stretch a race course.

PLANNING FOR 1910 CONNECTICUT RUN

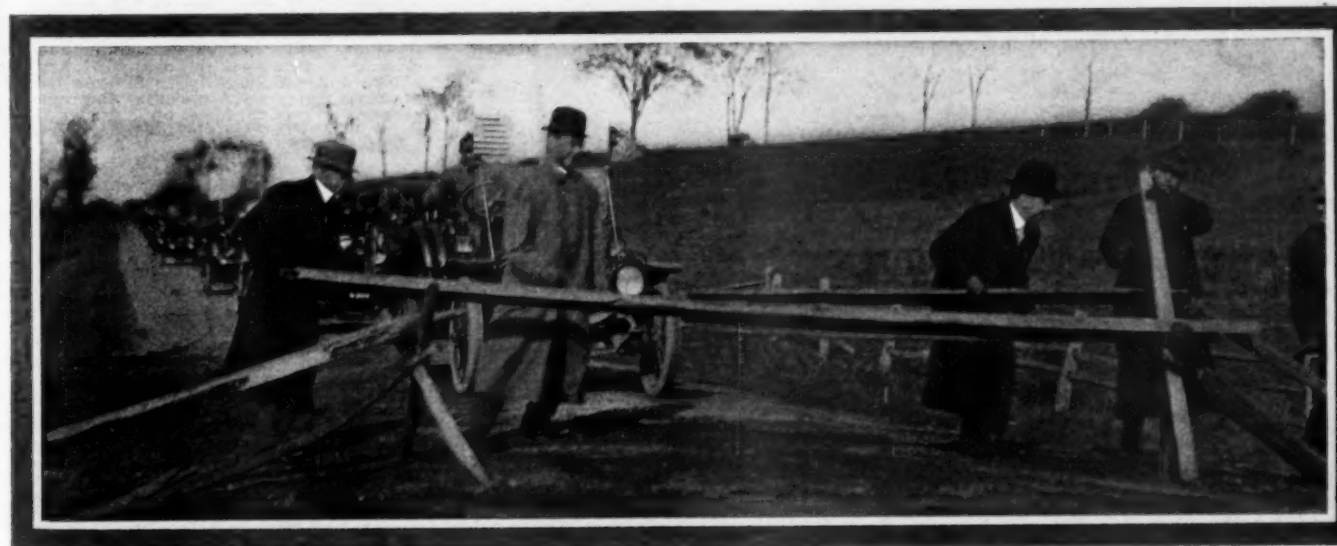
HARTFORD, CONN., Nov. 1—The all-Connecticut endurance run is the latest topic in the contest committee of the Automobile Club of Hartford. At a meeting held Friday evening the committee discussed a run to last four days, in the itinerary of which nearly every city in the State would figure. The meeting was called at the request of the American Automobile Association, which wished to know just what the Hartford club had on the board for 1910. The idea of a long endurance run seems to meet with popular favor, and it is believed that such a run could be

successfully promoted, with a possibility of over 100 entrants. The distance would be divided into day's runs, radiating from Hartford as central control, the cars returning there every night. Connecticut offers all sorts of going; level country with good roads, steep hills and an occasional mountain ascent. The total distance would in all probability be 500 miles or more, and the club would offer a trophy valued at \$300 to \$500.

DETROIT'S VICINITY MAY HAVE ROADS

DETROIT, Nov. 1—That the good roads movement is to be given impetus in this vicinity the coming summer is manifest from the fact that a committee including representatives from various automobile manufactories and retail establishments has perfected arrangements for the building of several miles of good roads in Wayne County. The Michigan State Automobile Association has also interested itself in the matter, and tangible results of a decidedly welcome nature are promised.

The rumor that Detroit is to have a speedway solely for automobiles, built along the lines of the one in Indianapolis, is strengthened by the resignation of E. A. Moross, manager of the Indianapolis Motor Speedway, for the avowed purpose of returning to Detroit to become associated with a company that is to build a speedway here. Moross has for several years been a prominent figure in automobile racing circles.



Highway Commissioner MacDonald Breaking Down the Fence, Berlin Turnpike Opening



In the Woods of Washington State with a Franklin

This photograph, taken near Pomeroy, shows W. W. Richardson and party in their Franklin touring car. Mr. Richardson is the owner of a large grain ranch, and in June, 1908, he drove his car from the H. H. Franklin factory in Syracuse, N. Y., to his Washington home.

More about Bumper Patents—The temporary injunction obtained by the Turner Brass Company against the Vanguard Mfg. Co., restraining the latter from manufacturing bumpers infringing on a certain patent, has brought from the Vanguard Company an authoritative statement of its position in the matter. According to this statement, the Vanguard Company has long since discontinued the manufacture of the style of bumper claimed to be an infringement, for the reason, it is said, that this style was found unsatisfactory in service. Nevertheless, the injunction will be contested in court, in order to establish the fact that the Vanguard Company is not and has not been infringing on any patents whatsoever.

Baldwin Buys Auto Truck—The Baldwin Locomotive Works has joined the users of auto trucks. The first machine bought by this company is a Saurer, which is to be used between the company's works in Philadelphia and one of the foundries and branch works some thirteen miles distant. It is expected that the truck will be able to make three round trips a day, when necessary. The features of the truck include a compressed air system, which operates one set of brakes and also a self-starter for the engine. It has a four-speed gear, the highest gear giving fifteen miles an hour.

New Kline-Kar Scores—Two Kline-Kars took part in the sociability run of the Harrisburg, Pa., Motor Club from Harrisburg to Cornwall and return, and both acquitted themselves creditably in the gymkhana contests which were held at Cornwall. Robert Morton, the manager of the Keystone Motor Car Company, won the vibration contest with his six-cylinder, 40-horsepower Kline-Kar, and J. A. Kline, general manager of the B. C. K. Motor Car Company, which makes the Kline-Kar, won the potato race with his 6-40 roadster.

White Concentrates in Cleveland—On November 1 the advertising office of the White Company will be moved from its present location, 1402 Broadway, New

York City, to the White factory in Cleveland. R. H. Johnston, who for the past six years has been in charge of the advertising of the company, will continue his duties at the new address. Mr. Johnston will change his place of residence from the Engineers' Club, New York, to the Hollenden Hotel, Cleveland.

IN AND ABOUT THE AGENCIES

American Simplex, Boston—New salesrooms in the Hub City have just been opened at 261 Dartmouth street, one of the best locations in the city. This branch will be in charge of W. Mason Turner, as manager. The recent victory of this car in the Munsey tour has done much to advance the sales in this part of the country, and the new branch was opened to take care of the increased business resulting from that victory. This company has done much explaining to counteract the impression that it was its car which won at Lowell.

Miller Supplies, Atlanta, Ga.—Chas. E. Miller, manufacturer and jobber of automobile supplies and accessories, opened a branch house in Atlanta November 1, at 66 Edgewood avenue. It is expected to carry on hand a large stock of supplies to meet the Southern demand. Prices will be the same f.o.b. Atlanta as at the other branches, in this way saving customers the freight and express charges, as well as several days' time.

Cadillac, Pittsburgh—The McAlister Motor Car Company has succeeded the Imperial Motor Company as agent for the Cadillac. The firm is composed of R. P. and William J. McAlister, and will retain the location at 5906 Penn avenue.

Mitchell, Grand Forks, Mich.—A. O. Anderson and M. L. Strong have formed an automobile company to handle the Mitchell, and have been assigned ten counties in northeastern Michigan.

Marmon, Chicago—W. G. Tennant, of Tennant Motors, Ltd., has taken the agency for the Marmon line in Chicago and northern Illinois, and has contracted for 75 cars.

Croxton-Keeton Agencies—Contracts for the sale of Croxton-Keeton cars have been made with the Sanford Automobile Company, of Denver, and the Rookledge-Gilmer Company, of Salt Lake City.

Moon, Pittsburgh—The Agency for the Moon Motor Car Company in this city has been secured by L. A. Randal, who already handles the Hupmobile.

Overland, Detroit—The Overland Sales Company has been organized to represent the Overland in Detroit, with a salesroom at 295 Jefferson avenue.

PERSONAL TRADE MENTION

L. Isenberg, junior member of the Roman Automobile Company of Philadelphia, has gone to Washington, D. C., to take charge of the branch house which the concern recently opened there.

"Tom" Berger, the noted Philadelphia driver, has signed with the sales force of the Motor Company, agents for the Premier car.

RECENT INCORPORATIONS

Rambler Automobile Company of New York, New York City—Incorporated with a capital stock of \$25,000 by T. H. Beardsley, G. Tiernan and F. H. Purcell, to manufacture and sell automobiles.

Midland New York Company, New York City—Incorporated with a capital stock of \$50,000 by M. Boyle, A. F. Britton and E. M. Boyle, to manufacture and sell automobiles.

RECENT TRADE PUBLICATIONS

Peerless Motor Car Company, Cleveland—The last word in the development of automobile catalogs as works of art must be granted the Peerless. Many delightful country scenes form the head and tail pieces, and these are printed in colors, giving the effect of water-color paintings. Even the mechanical illustrations are tinted to emphasize the points. There are 36 pages, 8 by 10 inches in size, of which a third are occupied by full-page illustrations. The covers are double, of stiff, heavy paper in terra cotta, with an ornamental design in shades of brown and gold. In pardonable enthusiasm over the artistic side of the catalog the mechanical side might well escape notice, yet this has not been neglected. The reading matter is straightforward exposition, and is all devoted to the car, without the high-flown verbiage which is so often allowed to obscure the points which the reader really wishes to have made clear.

The Rambler Magazine—The "Dealers Number" of this product of Thos. B. Jeffery & Company seems rather above the average of house publications. Its 60 pages, of fine glazed stock, contain descriptions of the 1910 Rambler models, a story of the five thousand-mile test runs of the first two of the new series cars, and an exposition of the selling system of the company. Illustrations are good and unusual in number, including photographs of many of the machines and processes in use in the Rambler factory, pictures of garages and agencies, cars in various contests, etc. A signed photograph of Thomas B. Jeffery forms the frontispiece.

The Locomobile Company of America, Bridgeport, Conn.—The 1910 catalog of this well-known maker is a splendid example of commercial literature, being modest in size and design and at the same time attractive in its neatness and simplicity. It is bound in a double cover of brown linen, the front of which bears the title "Locomobile—1910" in red. The type is small but distinct, and set off by red side-heads. The illustrations, although not numerous, are well chosen and clearly printed, always emphasizing the right point. Specifications are complete and conveniently arranged.

Gilbert Mfg. Co., New Haven, Conn.—The advance catalog for the season of 1910 contains an extraordinarily varied line of supplies, all of which are manufactured by this firm. Tire cases are a specialty, as well as irons for holding spare tires; but also included are inner tube cases, spark plug cases, tire sleeves, starting crank holders, storm aprons, tool kits, waterproof magneto covers, fan or roller belts of coiled wire, joint and steering connection boots, lamp covers, robe rail boots, racing helmets, and spare tire locks. The Bowers carburetor is also listed.